A

HISTORY

OF

THE EARTH,

AND

ANIMATED NATURE.

By OLIVER GOLDSMITH.

ILLUSTRATED WITH COPPER PLATES.

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WITH CORRECTIONS AND ADDITIONS,

BY W. TURTON, M.D.

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A

HISTORY

OF

BIRDS.

CHAP. I.

Of Birds in General.

WE are now come to a beautiful and loquacious race of animals, that embellish our forests, amuse our walks, and exclude solitude from our most shady retirements. From these man has nothing to fear; their pleasures, their desires, and even their animosities, only serve to enliven the general picture of Nature, and give harmony to meditation.

No part of Nature appears destitute of inhabitants. The woods, the waters, the depths of the earth, have their respective tenants; while the yielding air, and those tracts of seeming space where man never can ascend, are also passed through by multitudes of the most beautiful beings of the creation.

Every order and rank of animals seems fitted for its situation in life; but none more apparently than birds: they share in common with the stronger race of quadrupeds the vegetable spoils of the earth, are supplied with swiftness to compensate for their want of force; and have a faculty of ascending into the air to avoid that power which they cannot oppose.

The bird seems formed entirely for a life of

escape; and every part of the anatomy of the animal seems calculated for swiftness. As it is designed to rise upon air, all its parts are proportionably light, and expand a large surface without solidity.

In a comparative view with man, their formation seems much ruder and more imperfect; and they are in general found incapable of the docility even of quadrupeds. Indeed, what great degree of sagacity can be expected in animals whose eyes are almost as large as their brain? However, though they fall below quadrupeds in the scale of Nature, and are less imitative of human endowments; yet they hold the next rank, and far surpass fishes and insects, both in the structure of their bodies and in their sagacity.

As in mechanics the most curious instruments are generally the most complicated, so it is in anatomy. The body of man presents the greatest variety upon dissection; quadrupeds, less perfectly formed, discover their defects in the simplicity of their conformation; the mechanism of birds is still less complex; fishes are furnished with fewer organs still; whilst insects, more imperfect than all, seem to fill up the chasm that separates animal from vegetable nature. Of man, the most perfect animal, there are but three or four species; of quadrupeds, the kinds are more numerous; birds are more various still; fishes yet more; but insects afford so very great a variety, that they elude the search of the most inquisitive pursuer.

Quadrupeds, as was said, have some distant resemblance in their internal structure with man; but that of birds is entirely dissimilar. As they seem chiefly formed to inhabit the empty regions of air,

all their parts are adapted to their destined situation. It will be proper therefore, before I give a general history of birds, to enter into a slight detail of their anatomy and conformation.

As to their external parts, they seem surprisingly adapted for swiftness of motion. The shape of their body is sharp before, to pierce and make way through the air; it then rises by a gentle swelling to its bulk, and falls off in an expansive tail, that helps to keep it buoyant, while the fore-parts are cleaving the air by their sharpness. From this conformation, they have often been compared to a ship making its way through water; the trunk of the body answers to the hold, the head to the prow, the tail to the rudder, and the wings to the oars; from whence the poets have adopted the metaphor of *remigium alarum*, when they describe the wavy motion of a bird in flight.

What we are called upon next to admire in the external formation of birds is, the neat position of the feathers, lying all one way, answering at once the purposes of warmth, speed, and security. They mostly tend backward, and are laid over one another in an exact and regular order, armed with warm and soft down next the body, and more strongly fortified and curiously closed externally, to fence off the injuries of the weather. But, lest the feathers should spoil by their violent attrition against the air, or imbibe the moisture of the atmosphere, the animal is furnished with a gland behind, containing a proper quantity of oil, which can be pressed out by the bird's bill, and laid smoothly over every feather that wants to be dressed for the occasion. This gland is situated on the rump, and furnished with

an opening or excretory duct; about which grows a small tuft of feathers, somewhat like a painter's pencil. When, therefore, the feathers are shattered or rumpled, the bird, turning its head backwards, with the bill catches hold of the gland, and, pressing it, forces out the oily substance, with which it anoints the disjoined parts of the feathers; and, drawing them out with great assiduity, re-composes and places them in due order; by which they unite more closely together. Such poultry, however, as live for the most part under cover, are not furnished with so large a stock of this fluid as those birds that reside in the open air. The feathers of an hen, for instance, are pervious to every shower; on the contrary, swans, geese, ducks, and all such as Nature has directed to live upon the water, have their feathers dressed with oil from the very first day of their leaving the shell. Thus their stock of fluid is equal to the necessity of its consumption. Their very flesh contracts a flavour from it, which renders it in some so very rancid, as to make it utterly unfit for food; however, though it injures the flesh, it improves the feathers for all the domestic purposes to which they are usually converted.

Nor are the feathers with which birds are covered less an object of admiration. The shaft of every feather is made proportionably strong; but hollow below for strength and lightness, and above filled with a pith to feed the growth of the vane or beard that springs from the shaft of the feather on either side. All these feathers are placed generally according to their length and strength, so that the largest and strongest feathers in flight have the greatest share of duty. The vane, or beard of the

feather, is formed with equal contrivance and care. It consists not of one continued membrane; because if this were broken, it could not easily be repaired; but it is composed of many layers, each somewhat in itself resembling a feather, and lying against each other in close conjunction. Towards the shaft of the feather, these layers are broad, and of a semicircular form, to serve for strength, and for the closer grafting them one against another when in action. Towards the outer part of the vane, these layers grow slender and taper to be more light. On their under side they are thin and smooth, but their upper outer edge is parted into two hairy edges, each side having a different sort of hairs, broad at bottom, and slender and bearded above. By this mechanism, the hooked beards of one layer always lie next the straight beards of the next, and by that means lock and hold each other.

The next object that comes under consideration in contemplating an animal that flies, is the wing, the instrument by which this wonderful progression is performed. In such birds as fly, they are usually placed at that part of the body which serves to poize the whole, and support it in a fluid that at first seems so much lighter than itself. They answer to the fore-legs in quadrupeds, and at the extremity of this they have a certain finger-like appendix, which is usually called the *bastard-wing*. This instrument of flight is furnished with quills, which differ from the common feathers only in their size, being larger, and also from their springing from the deeper part of the skin, their shafts lying almost close to the bone. The beards of these quills are broad on one side and more narrow on the other,

both which contribute to the progressive motion of the bird and the closeness of the wing. The manner in which most birds avail themselves of these is first thus: they quit the earth with a bound, in order to have room for flapping with the wing; when they have room for this, they strike the body of air beneath the wing with a violent motion, and with the whole under surface of the same; but then, to avoid striking the air with equal violence on the upper side as they rise, the wing is instantly contracted; so that the animal rises by the impulse till it spreads the wing for a second blow. For this reason, we always see birds chuse to rise against the wind, because they have thus a greater body of air on the under than the upper side of the wing. For these reasons also large fowls do not rise easily, both because they have not sufficient room at first for the motion of their wings, and because the body of air does not lie so directly under the wing as they rise.

In order to move the wings, all birds are furnished with two very strong pectoral muscles, which lie on each side of the breast-bone. The pectoral muscles of quadrupeds are trifling in comparison to those of birds. In quadrupeds, as well as in man, the muscles which move the thighs and hinder parts of the body are by far the strongest, while those of the arms are feeble; but in birds, which make use of their wings, the contrary obtains; the pectoral muscles that move the wings or arms are of enormous strength, while those of the thighs are weak and slender. By means of these, a bird can move its wings with a degree of strength which, when compared to the animal's size, is almost in-

credible. The flap of a swan's wing would break a man's leg; and a similar blow from an eagle has been known to lay a man dead in an instant. Such, consequently, is the force of the wing, and such its lightness, as to be inimitable by art. No machines that human skill can contrive are capable of giving such force to so light an apparatus. The art of flying, therefore, that has so often and so fruitlessly been sought after, must, it is feared, for ever be unattainable; since as man increases the force of his flying machine, he must be obliged to increase its weight also.

In all birds, except nocturnal ones, the head is smaller, and bears less proportion to the body than in quadrupeds, that it may more readily divide the air in flying, and make way for the body, so as to render its passage more easy. Their eyes also are more flat and depressed than in quadrupeds; a circle of small plates of bone, placed scalewise, under the outer coat of the organ, encompasses the pupil on each, to strengthen and defend it from injuries. Beside this, birds have a kind of skin, called the nictitating membrane, with which, like a veil, they can at pleasure cover their eyes, though their eyelids continue open. This membrane takes its rise from the greater or more obtuse corner of the eye, and serves to wipe, cleanse, and probably to moisten its surface. The eyes, though they outwardly appear but small, yet, separately, each almost equals the brain; whereas in man the brain is more than twenty times larger than the orbit of the eye. Nor is this organ in birds less adapted for vision by a particular expansion of the optic nerve, which ren-

ders the impressions of external objects more vivid and distinct.

From this conformation of the eye it follows, that the sense of seeing in birds is infinitely superior to that of other animals. Indeed, this piercing sight seems necessary to the creature's support and safety. Were this organ blunter, from the rapidity of the bird's motion, it would be apt to strike against every object in its way; and it could scarcely find subsistence unless possessed of a power to discern its food from above with astonishing sagacity. An hawk, for instance, perceives a lark at a distance which neither men nor dogs could spy; a kite, from an almost imperceptible height in the clouds, darts down on its prey with the most unerring aim. The sight of birds, therefore, exceeds what we know in most other animals, and excels them both in strength and precision.

All birds want the external ear standing out from the head; they are only furnished with holes that convey sounds to the auditory canal. It is true, indeed that the horned owl, and one or two more birds, seem to have external ears; but what bears that resemblance are only feathers sticking out on each side of the head, but no way necessary to the sense of hearing. It is probable, however, that the feathers encompassing the ear-holes in birds supply the defect of the exterior ear, and collect sounds to be transmitted to the internal sensory. The extreme delicacy of this organ is easily proved by the readiness with which birds learn tunes, or repeat words, and the great exactness of their pronunciation.

The sense of smelling seems not less vivid in the generality of birds. Many of them *wind* their prey at an immense distance, while others are equally protected by this sense against their insidious pursuers. In decoys, where ducks are caught, the men who attend them universally keep a piece of turf burning near their mouths, upon which they breathe, lest the fowl should smell them, and consequently fly away. The universality of this practice, puts the necessity of it beyond a doubt, and proves the extreme delicacy of the sense of smelling, at least in this species of the feathered creation.

Next to the parts for flight, let us view the legs and feet ministring to motion. They are both made light for the easier transportation through the air. The toes in some are webbed, to fit them for the waters; in others they are separate, for the better holding objects, or clinging to trees for safety. Such as have long legs have also long necks, as otherwise they would be incapable of gathering up their food, either by land or water. But it does not hold, however, that those who have long necks should have long legs, since we see that swans and geese, whose necks are extremely long, have very short legs, and these chiefly employed in swimming.

Thus every external part hitherto noticed appears adapted to the life and situation of the animal; nor are the inward parts, though less immediately appropriated to flight, less necessary to safety. The bones of every part of the body are extremely light and thin; and all the muscles, except that immediately moving the wings, extremely slight and feeble. The tail, which is composed of quill fea-

thers, serves to counterbalance the head and neck, it guides the animal's flight like a rudder, and greatly assists it either in its ascent or when descending.

If we go on to examine birds internally, we shall find the same wonderful conformation fitting them for a life in air, and increasing the surface by diminishing the solidity. In the first place, their lungs, which are commonly called the sole, stick fast to the sides of the ribs and back, and can be very little dilated or contracted. But to make up for this, which might impede their breathing, the ends of the branches of the wind-pipe open into them, while these have openings into the cavity of the belly, and convey the air drawn in by breathing into certain receptacles like bladders, running along the length of the whole body. Nor are these openings obscure or difficult to be discerned; for a probe thrust into the lungs of a fowl will easily find a passage into the belly; and air blown into the wind pipe will be seen to distend the animal's body like a bladder. In quadrupeds this passage is stopped by the midriff; but in fowls the communication is obvious; and consequently they have a much greater facility of taking a long and large inspiration. It is sometimes also seen that the wind-pipe makes many convolutions within the body of a bird, and it is then called the labyrinth; but of what use these convolutions are, or why the wind-pipe should make so many turnings within the body of some birds, is a difficulty for which no naturalist has been able to account.

This difference of the wind-pipe often obtains in animals that to all appearance are of the same spe-

cies. Thus in the tame swan, the wind-pipe makes but a straight passage into the lungs; while in the wild swan, which to all external appearance seems the same animal, the wind-pipe pierces through the breast bone, and there has several turnings, before it comes out again and goes to enter the lungs. It is not to form the voice that these turnings are found, since the fowls that are without them are vocal; and those, particularly the bird just now mentioned, that have them, are silent. Whence, therefore, some birds derive that loud and various modulation in their warblings is not easily to be accounted for; at least, the knife of the anatomist goes but a short way in the investigation. All we are certain of, is, that birds have much louder voices, in respect to their bulk, than animals of any other kind; for the bellowing of an ox is not louder than the scream of a peacock.

In these particulars, birds pretty much resemble each other in their internal conformation; but there are some varieties which we should more attentively observe. All birds have, properly speaking, but one stomach; but this is very different in different kinds. In all the rapacious kinds that live upon animal food, as well as in some of the fish feeding tribe, the stomach is peculiarly formed. The œsophagus, or gullet, in them is found replete with glandulous bodies, which serve to dilate and macerate the food as it passes into the stomach, which is always very large in proportion to the size of the bird, and generally wrapped round with fat, in order to increase its warmth and powers of digestion.

Granivorous birds, or such as live upon fruits, corn, and other vegetables, have their intestines

differently formed from those of the rapacious kind. Their gullet dilates just above the breast-bone, and forms itself into a pouch or bag, called the crop. This is replete with salivary glands, which serve to moisten and often the grain and other food which it contains. These glands are very numerous, with longitudinal openings, which emit a whitish and a viscous substance. After the dry food of the bird has been macerated for a convenient time, it then passes into the belly, where, instead of a soft moist stomach, as in the rapacious kinds, it is ground between two pair of muscles, commonly called the gizzard, covered on the inside with a stony ridgy coat, and almost cartilaginous. These coats rubbing against each other, are capable of bruising and attenuating the hardest substances, their action being often compared to that of the grinding-teeth in man and other animals. Thus the organs of digestion are in a manner reversed in birds. Beasts grind their food with their teeth, and then it passes into the stomach, where it is softened and digested. On the contrary, birds of this sort first macerate and soften it in the crop, and then it is ground and comminuted in the stomach or gizzard. Birds are also careful to pick up sand, gravel, and other hard substances, not to grind their food, as has been supposed, but to prevent the too violent action of the coats of the stomach against each other.

Most birds have two appendices or blind guts, which in quadrupeds are always found single. Among such birds as are thus supplied, all carnivorous fowl, and all birds of the sparrow kind, have very small and short ones: water-fowl, and birds of the poultry kind, the longest of all. There is still ano-

ther appendix observable in the intestines of birds, resembling a little worm, which is nothing more than the remainder of that passage by which the yolk was conveyed into the guts of the young chicken while yet in the egg and under incubation.

The outlet of that duct which conveys the bile into the intestines is, in most birds, a great way distant from the stomach; which may arise from the danger there would be of the bile regurgitating into the stomach in their various rapid motions, as we see in men at sea; wherefore their biliary duct is so contrived, that this regurgitation cannot take place.

All birds, though they want a bladder for urine, have large kidneys and ureters, by which this secretion is made, and carried away by one common canal. "Birds," says Harvey, "as well as ser-
"pents, which have spungy lungs, make but little
"water, because they drink but little. They, there-
"fore, have no need of a bladder; but their urine
"distils down into the common canal, designed for
"receiving the other excrements of the body. The
"urine of birds differs from that of other animals;
"for as there is usually in urine two parts, one
"more serous and liquid, the other more thick and
"gross, which subsides to the bottom; in birds,
"this part is most abundant, and is distinguished
"from the rest by its white or silver colour. This
"part is found not only in the whole intestinal
"canal, but is seen also in the whole channel of the
"ureters, which may be distinguished from the
"coats of the kidneys by their whiteness. This
"milky substance they have in greater plenty than

"the more thin and serous part; and it is of a mid-"dle consistence, between limpid urine and the "grosser parts of the fæces. In passing through "the ureters, it resembles milk curdled or lightly "condensed; and being cast forth easily, congeals "into a chalky crust."

From this simple conformation of the animal, it should seem that birds are subject to few diseases; and in fact, they have but few. There is one, however, which they are subject to, from which quadrupeds are in a great measure exempt: this is the annual moulting which they suffer; for all birds whatsoever obtain a new covering of feathers once a year, and cast the old. During the moulting season, they ever appear disordered; those most remarkable for their courage then lose all their fierceness; and such as are of a weakly constitution often expire under this natural operation. No feeding can maintain their strength; they all cease to breed at this season; that nourishment which goes to the production of the young is wholly absorbed by the demand required for supplying the nascent plumage.

This moulting time, however, may be artificially accelerated; and those who have the management of singing birds frequently put their secret in practice. They inclose the bird in a dark cage, where they keep it excessively warm, and throw the poor little animal into an artificial fever; this produces the moult; his old feathers fall before their time, and a new set take place, more brilliant and beautiful than the former. They add, that it mends the bird's singing, and increases its vivacity; but it must not be concealed, that scarcely one bird in three survives the operation.

The manner in which Nature performs this operation of moulting is thus: the quill or feather, when first protruded from the skin and come to its full size, grows harder as it grows older, and receives a kind of periosteum or skin round the shaft, by which it seems attached to the animal. In proportion as the quill grows older, its sides, or the bony pen part, thicken; but its whole diameter shrinks and decreases. Thus, by the thickening of its sides, all nourishment from the body becomes more sparing; and, by the decrease of its diameter, it becomes more loosely fixed in its socket, till at length it falls out. In the mean time, the rudiments of an incipient quill are beginning below. The skin forms itself into a little bag, which is fed from the body by a small vein and artery, and which every day increases in size till it is protruded. While the one end vegetates into the beard or vane of the feather, that part attached to the skin is still soft, and receives a constant supply of nourishment, which is diffused through the body of the quill by that little light substance which we always find within when we make a pen. This substance, which as yet has received no name that I know of, serves the growing quill as the umbilical artery does an infant in the womb, by supplying it with nourishment, and diffusing that nourishment over the whole frame. When, however, the quill is come to its full growth, and requires no further nourishment, the vein and artery become less and less, till at last the little opening by which they communicated with the quill becomes wholly obliterated; and the quill thus deprived continues in its socket for some months, till in the end it shrinks, and

leaves room for a repetition of the same process of nature as before.

The moulting season commonly obtains from the end of summer to the middle of autumn. The bird continues to struggle with this malady during the winter, and Nature has kindly provided, that when there are the fewest provisions, that then the animal's appetite shall be least craving. At the beginning of spring, when food begins again to be plenty, the animal's strength and vigour return. It is then that the abundance of provisions, aided by the mildness of the season, incite it to love, and all nature seems teeming with life, and disposed to continue it.

CHAP. II.

Of the Generation, Nestling, and Incubation of Birds.

THE return of spring is the beginning of pleasure. Those vital spirits which seemed locked up during the winter, then begin to expand; vegetables and insects supply abundance of food; and the bird having more than a sufficiency for its own subsistence, is impelled to transfuse life as well as to maintain it. Those warblings which had been hushed during the colder seasons, now begin to animate the fields; every grove and bush resounds with the challenge of anger, or the call of allurement. This delightful concert of the grove, which is so much admired by man, is no way studied for his amuse-

ment: it is usually the call of the male to the female; his efforts to sooth her during the times of incubation: or it is a challenge between two males, for the affections of some common favourite.

It is by this call that birds begin to pair at the approach of spring, and provide for the support of a future progeny. The loudest notes are usually from the male; while the hen seldom expresses her consent, but in a short, interrupted twittering. This compact, at least for the season, holds with unbroken faith: many birds live with inviolable fidelity together for a constancy; and when one dies, the other is always seen to share the same fate soon after. We must not take our idea of the conjugal fidelity of birds from observing the poultry in our yards, whose freedom is abridged, and whose manners are totally corrupted by slavery. We must look for it in our fields and our forests, where Nature continues in unadulterated simplicity; where the number of males is generally equal to that of females; and where every little animal seems prouder of his progeny than pleased with his mate. Were it possible to compare sensations, the male of all wild birds seems as happy in the young brood as the female; and all his former caresses, all his soothing melodies, seem only aimed at that important occasion when they are both to become parents, and to educate a progeny of their own producing. The pleasures of love appear dull in their effects, when compared to the interval immediately after the exclusion of their young. They both seem, at that season, transported with pleasure; every action testifies their pride, their importance, and tender solicitude.

When the business of fecundation is performed, the female then begins to lay. Such eggs as have been impregnated by the cock are prolific; and such as have not (for she lays often without any congress whatsoever) continue barren, and are only addled by incubation. Previous, however, to laying, the work of nestling becomes the common care; and this is performed with no small degree of assiduity and apparent design. It has been asserted, that birds of one kind always make their nests in the same manner, and of the same materials but the truth is, that they vary this as the materials, places, or climates happen to differ. The redbreast, in some parts of England, makes its nest with oak leaves, where they are in greatest plenty: in other parts with moss and hair. Some birds, that with us make a very warm nest, are less solicitous in the tropical climates, where the heat of the weather promotes the business of incubation. In general, however, every species of birds has a peculiar architecture of its own; and this adapted to the number of eggs, the temperature of the climate, or the respective heat of the little animal's own body. Where the eggs are numerous, it is then incumbent to make the nest warm, that the animal heat may be equally diffused to them all. Thus the wren, and all the small birds, make the nest very warm; for having many eggs, it is requisite to distribute warmth to them in common: on the contrary, the plover, that has but two eggs, the eagle, and the crow, are not so solicitous in this respect, as their bodies are capable of being applied to the small number upon which they sit. With regard to climate, water-fowl, that with us make but a very slovenly nest, are much more exact in

this particular, in the colder regions of the north. They there take every precaution to make it warm; and some kinds strip the down from their breasts, to line it with greater security.

In general, however, every bird resorts to hatch in those climates and places where its food is found in greatest plenty; and always at that season when provisions are in the greatest abundance. The large birds, and those of the aquatic kinds, chuse places as remote from man as possible, as their food is in general different from that which is cultivated by human labour. Some birds, which have only the serpent to fear, build their nest depending from the end of a small bough, and form the entrance from below; being thus secured either from the serpent or the monkey tribes. But all the little birds which live upon fruits and corn, and that are too often unwelcome intruders upon the fruits of human industry, in making their nests use every precaution to conceal them from man. On the other hand, the great birds, remote from human society, use every precaution to render theirs innaccessible to wild beasts or vermin.

Nothing can exceed the patience of birds while hatching; neither the calls of hunger, nor the near approach of danger, can drive them from the nest. They are often fat upon beginning to sit, yet before incubation is over, the female is usually wasted to skin and bone. Ravens and crows, while the females are sitting, take care to provide them with food; and this in great abundance. But it is different with most of the smaller kinds: during the whole time the male sits near his mate upon some tree, and sooths her by his singing; and often when

she is tired takes her place, and patiently continues upon the nest till she returns. Sometimes, however, the eggs acquire a degree of heat too much for purposes of hatching: in such cases, the hen leaves them to cool a little; and then returns to sit, with her usual perseverance and pleasure.

So great is the power of instinct, in animals of this class, that they seem driven from one appetite to another, and continue almost passive under its influence. Reason we cannot call it, since the first dictates of that principle would be self-preservation: "Take a brute," says Addison, "out of his "instinct, and you find him wholly deprived of un- "derstanding. With what caution," continues he, "does the hen provide herself a nest in places "unfrequented, and free from noise and distur- "bance! When she has laid her eggs in such a "manner that she can cover them, what care does "she take in turning them frequently, that all "parts may partake of the vital warmth! When "she leaves them, to provide for her necessary sus- "tenance, how punctually does she return before "they have time to cool, and become incapable of "producing an animal! In the summer you see her "giving herself greater freedoms, and quitting her "care for above two hours together: but in winter, "when the rigour of the season would chill the "principles of life, and destroy the young one, she "grows more assiduous in her attendance, and "stays away but half the time. When the birth "approaches, with how much nicety and atten- "tion does she help the chick to break the prison! "not to take notice of her covering it from the inju- "ries of the weather, providing it with proper "nourishment, and teaching it to help itself; nor to

" mention her forsaking the nest, if, after the usual " time of reckoning the young one does not make " its appearance. A chymical operation could " not be followed with greater art or diligence than " is seen in the hatching a chick, though there are " many birds that shew an infinitely greater sa- " gacity: yet at the same time the hen, that has " all this seeming ingenuity, which is indeed abso- " lutely necessary for the propagation of the spe- " cies, considered in other respects, is without " the least glimmerings of thought or common " sense: she mistakes a piece of chalk for an egg, " and sits upon it in the same manner; she is insen- " sible of any increase or diminution in the number " of those she lays; she does not distinguish be- " tween her own and those of another species; and " when the birth appears of never so different a " bird, will cherish it for her own. A hen fol- " lowed by a brood of ducks, shall stand affrighted " at the edge of the pond, trembling for the fate of " her young, which she sees venturing into so dan- " gerous an element. As the different principle " which acts in these different animals cannot be " termed reason, so when we call it instinct, we " mean something we have no knowledge of. It " appears to me the immediate direction of Provi- " dence; and such an operation of the Supreme " Being as that which determines all the portions of " matter to their proper centres."

The production of the young, as was said, seems to be the great æra of a bird's happiness. Nothing can at that time exceed its spirit and industry: the most timid becomes courageous in the defence of its young. Birds of the rapacious kind, at this season,

become more than usually fierce and active. They carry their prey, yet throbbing with life, to the nest, and early accustom their young to habits of slaughter and cruelty. Nor are those of milder natures less busily employed; the little birds then discontinue their singing, taken up with more important pursuits of common subsistence.

While the young are yet infledged, and continue in the nest, the old ones take care to provide them with a regular supply; and, least one should take all nourishment from the rest, they feed each of the young in their turn. If they perceive that man has been busy with their nest, or has handled the little ones, they abandon the place by night, and provide their brood a more secure, though less commodious retreat. When the whole family is fully plumed, and capable of avoiding danger by flight, they are then led forth when the weather is fine, and taught the paternal art of providing for their subsistence. They are led to the places where their food lies; they are shewn the method of discovering or carrying it away; and then led back to the nest, for a day or two longer. At length, when they are completely qualified to shift for themselves, the old ones take them abroad, and leading them to the accustomed places, forsake them for the last time; and all future connexion is ever at an end.

Those birds which are hatched and sent out earliest in the season are the most strong and vigorous; those, on the other hand, that have been delayed till the midst of summer, are more feeble and tender, and sometimes incapable of sustaining the rigours of the ensuing winter. Birds themselves seem sensible of this difference, and endea-

vour to produce early in the spring. If, however, their efforts are obstructed by having their nests robbed, or some similar accident, they still persevere in their efforts for a progeny; and it often happens that some are thus retarded till the midst of winter. What number of eggs any bird can lay in the course of a season is not ascertained; but this is true, that such as would have laid but two or three at the most, if their nests be robbed, or their eggs stolen, will lay above ten or twelve. A common hen, if moderately fed, will lay above an hundred from the beginning of spring to the latter end of autumn. In general, however, it obtains, that the smallest and weakest animals are the most prolific, while the strong and rapacious are abridged by sterility. Thus, such kinds as are easily destroyed, are as readily repaired; and Nature, where she has denied the power of resistance, has compensated by the fertility attending procreation.

Birds in general, though they have so much to fear from man and each other, are seldom scared away from their usual haunts. Although they be so perfectly formed for a wandering life, and are supplied with powers to satisfy all their appetites, though never so remote from the object, though they are so well fitted for changing place with ease and rapidity, yet the greatest number remain contented in the districts where they have been bred, and by no means exert their desires in proportion to their endowments. The rook, if undisturbed, never desires to leave his native grove; the blackbird still frequents its accustomed hedge; and the red-breast, though seemingly mild, claims a certain district, from whence he seldom moves, but drives

out every one of the same species from thence without pity. They are excited to migration by no other motives but those of fear, climate, or hunger. It must be from one of these powerful motives that the birds, which are called birds of passage, every year forsake us for some time, and make their regular and expected returns.

Nothing has more employed the curiosity of mankind than these annual emigrations; and yet few subjects continue so much involved in darkness. It is generally believed, that the cause of their retreat from these parts of Europe is either a scarcity of food at certain seasons, or the want of a secure asylum from the persecution of man during the time of courtship and bringing up their young. Thus the starling, in Sweden, at the approach of winter, finding subsistence no longer in that kingdom, descends every year into Germany; and the hen chaffinches of the same country are seen every year to fly through Holland in large flocks, to pass their winter in a milder climate. Others, with a more daring spirit, prepare for journies that might intimidate even human perseverance. Thus the quails in spring forsake the burning heats of Africa for the milder sun of Europe; and, when they have passed the summer with us, steer their flight back to enjoy in Egypt the temperate air, which then begins to be delightful. This with them seems a preconcerted undertaking. They unite together in some open place, for some days before their departure, and, by an odd kind of chattering, seem to debate on the method to proceed. When their plan is resolved upon, they all take flight together, and often appear in such numbers, that, to mariners at

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sea, they seem like a cloud that rests upon the horison. The boldest, strongest, and by far the greatest number, make good their intention; but many there are who, not well apprized of their own force for the undertaking, grow weary in the way, and, quite spent by the fatigues of their flight, drop down into the sea, and sometimes upon deck, thus becoming an easy prey to the mariner.

Of the vast quantity of water-fowl that frequent our shores, it is amazing to reflect how few are known to breed here. The cause that principally urges them to leave this country seems to be, not merely the want of food, but the desire of a secure retreat. Our country is too populous for birds so shy and timid as the greatest number of these are. When great part of our island was a mere waste, an uncultivated tract of woods and marshes, many species of birds which now migrate remained with us throughout the year. The great heron and the crane, that have now forsaken this country, in former times bred familiarly in our marshes, and seemed to animate our fens. Their nests, like those of most cloven footed water-fowl, were built on the ground, and exposed to every invader. But as rural economy increased, these animals were more and more disturbed. Before they had little to fear, as the surrounding marsh defended them from all the carnivorous quadrupeds, and their own strength from birds of prey; but upon the intrusion of man, and by a long series of alarms, they have at length been obliged to seek, during the summer, some lonely habitation, at a safe distance from every destroyer.

Of the numerous tribes of the duck kind, we know of no more than five that breed here; the

tame swan, the tame goose, the sheldrake, the eider duck, and a few of the wild ducks. The rest contribute to form that amazing multitude of water-fowl which annually repair to the dreary lakes and deserts of Lapland from the more southern countries of Europe. In those extensive and solitary retreats, they perform the duties of incubation and nutrition in full security. There are few of this kind that may not be traced to the northern deserts, to countries of lakes, rivers, swamps, and mountains, covered with thick and gloomy forests, that afford shelter during summer to the timid animals, who live there in undisturbed security. In those regions, from the thickness of the forests, the ground remains moist and penetrable during the summer season; the woodcock, the snipe, and other slender-billed birds, can there feed at ease; while the web-footed birds find more than sufficient plenty of food from the number of insects, which swarm there to an incredible degree. The days there are long; and the beautiful meteorous nights afford them every opportunity of collecting so minute a food, which is probably of all others the most grateful. We are not to be astonished, therefore, at the amazing numbers of fowl that descend from these regions at the approach of winter; numbers to which the army of Xerxes was but trifling in comparison; and which Linnæus has observed for eight whole days and nights to cover the surface of the river Calix.

This migration from the north usually begins in September, when they quit their retreats, and disperse themselves over all the southern parts of Europe. It is not unpleasing to observe the order of their flight; they generally range themselves in

a long line, or they sometimes make their march angularly, two lines uniting in the centre like the letter V reversed. The bird which leads at the point seems to cleave the air, to facilitate the passage for those which are to follow. When fatigued with this laborious station, it falls back into one of the wings of the file, while another takes its place. With us they make their appearance about the beginning of October, circulate first round our shores, and, when compelled by severe frost, betake themselves to our lakes and rivers. Some, indeed, of the web-footed fowl, of hardier constitutions than the rest, abide the rigours of their northern climate the whole winter; but when the cold reigns there with more than usual severity, they are obliged to seek for more southern skies. They then repair with the rest for shelter to these kingdoms; so that the diver, the wild swan, and the swallow-tailed sheldrake, visit our coasts but seldom, and that only when compelled by the severity of their winters at home.

It has been often a subject of astonishment, how animals to all appearance so dull and irrational should perform such long journeys, should know whither to steer, and when to set out upon such a great undertaking. It is probable that the same instinct which governs all their other actions operates also here. They rather follow the weather than the country; they steer only from colder or warmer climates into those of an opposite nature; and finding the variations of the air as they proceed in their favour, go on till they find land to repose on. It cannot be supposed that they have any memory of the country where they might have

spent a former winter: it cannot be supposed that they see the country to which they travel, from their height in the air; since, though they mounted for miles, the convexity of the globe would intercept their view; it must therefore only be, that they go on as they continue to perceive the atmosphere more suitable to their present wants and dispositions.

All this seems to be pretty plain; but there is a circumstance attending the migration of swallows which wraps this subject in great obscurity. It is agreed on all hands, that they are seen migrating into warmer climates, and that in amazing numbers, at the approach of the European winter. Their return into Europe is also as well attested about the beginning of summer; but we have another account, which serves to prove that numbers of them continue torpid here during the winter; and, like bats, make their retreat into old walls, the hollow of trees, or even sink into the deepest lakes, and find security for the winter season, by remaining there in clusters at the bottom. However this latter circumstance may be, their retreat into old walls is too well authenticated to remain a doubt at present. The difficulty, therefore, is to account for this difference in these animals thus variously preparing to encounter the winter. It was supposed that in some of them the blood might lose its motion by the cold, and that thus they were rendered torpid by the severity of the season; but M. Buffon having placed many of this tribe in an ice-house, found that the same cold by which their blood was congealed was fatal to the animal; it remains, therefore, a doubt to this hour whether

there may not be a species of swallows, to all external appearance like the rest, but differently formed within, so as to fit them for a state of insensibility during the winter here. It was suggested, indeed, that the swallows found thus torpid were such only as were too weak to undertake the migration, or were hatched too late to join the general convoy; but it was upon these that M. Buffon tried his experiment; it was these that died under the operation.

Thus there are some birds which by migrating make an habitation of every part of the earth; but in general every climate has birds peculiar to itself. The feathered inhabitants of the temperate zone are but little remarkable for the beauty of their plumage; but then the smaller kinds make up for this defect by the melody of their voices. The birds of the torrid zone are very bright and vivid in their colours; but they have screaming voices, or are totally silent. The frigid zone, on the other hand, where the seas abound with fish, are stocked with birds of the aquatic kind, in much greater plenty than in Europe; and these are generally clothed with a warmer coat of feathers; or they have large quantities of fat lying underneath the skin, which serves to defend them from the rigours of the climate.

In all countries, however, birds are a more long-lived class of animals than the quadrupeds or insects of the same climate. The life of man himself is but short, when compared to what some of them enjoy. It is said that swans have been known to live three hundred years: geese are often seen to live fourscore, while linnets, and other little birds, though imprisoned in cages, are often found to

reach fourteen or fifteen. How birds, whose age of perfection is much more early than that of quadrupeds, should yet live comparatively so much longer, is not easily to be accounted for; perhaps, as their bones are lighter, and more porous than those of quadrupeds, there are fewer obstructions in the animal machine; and Nature, thus finding more room for the operations of life, it is carried on to a greater extent.

All birds in general are less than quadrupeds; that is, the greatest of one class far surpass the greatest of the other in magnitude. The ostrich, which is the greatest of birds, bears no proportion to the elephant; and the smallest humming-bird, which is the least of the class, is still far more minute than the mouse. In these the extremities of Nature are plainly discernible; and in forming them she appears to have been doubtful in her operations; the ostrich, seemingly covered with hair, and incapable of flight, making near approaches to the quadruped class; while the humming bird, of the size of an humble bee, and with a fluttering motion, seems nearly allied to the insect.

These extremities of this class are rather objects of human curiosity than utility: it is the middle order of birds which man has taken care to propagate and maintain. Of those which he has taken under his protection, and which administer to his pleasures or necessities, the greatest number seem creatures of his formation. The variety of climate to which he consigns them, the food with which he supplies them, and the purposes for which he employs them, produce amazing varieties, both in their colours, shape, magnitude, and the taste of their

flesh. Wild birds are, for the most part, of the same magnitude and shape; they still keep the prints of primeval nature strong upon them; except in a few they generally maintain their very colour: but it is otherwise with domestic animals; they change at the will of man—of the tame pigeon, for instance, it is said that they can be bred to a feather.

As we are thus capable of influencing their form and colour, so also is it frequent to see equal instances of our influencing their habitudes, appetites, and passions. The cock, for instance, is artificially formed into that courage and activity which he is seen to possess; and many birds testify a strong attachment to the hand that feeds them; how far they are capable of instruction, is manifest to those who have the care of hawks. But a still more surprising instance of this, was seen some time ago in London: a canary bird was taught to pick up the letters of the alphabet, at the word of command, so as to spell any person's name in company; and this the little animal did by motions from its master, which were imperceptible to every other spectator. Upon the whole, however, they are inferior to quadrupeds in docility; and seem more mechanically impelled by all the power of instinct.

CHAP. III.

Of the Division of Birds.

THOUGH birds are fitted for sporting in air, yet as they find their food upon the surface of the earth,

there seems a variety equal to the different aliments with which it tends to supply them. The flat and burning desert, the rocky cliff, the extensive fen, the stormy ocean, as well as the pleasing landscape, have all their peculiar inhabitants. The most obvious distinction therefore of birds, is into those that live by land, and those that live by water; or, in other words, into *land birds*, and *water fowl.*

It is no difficult matter to distinguish land from water fowl, by the legs and toes. All land birds have their toes divided, without any membrane or web between them; and their legs and feet serve them for the purposes of running, grasping, or climbing. On the other hand, water fowl have their legs and feet formed for the purposes of wading in water, or swimming on its surface. In those that wade, the legs are usually long and naked; in those that swim, the toes are webbed together, as we see in the feet of a goose, which serve, like oars, to drive them forward with greater velocity. The formation, therefore, of land and water fowl, is as distinct as their habits; and Nature herself seems to offer us this obvious distribution, in methodizing animals of the feathered creation.

However, a distinction so comprehensive goes but a short way in illustrating the different tribes of so numerous a class. The number of birds already known, amounts to nearly three thousand; and every person who turns his mind to these kinds of pursuits, is every day adding to the catalogue. It is not enough, therefore, to be able to distinguish a land from a water fowl; much more is still required: to be able to distinguish the different kinds of birds

from each other; and even the varieties in the same kind, when they happen to offer. This certainly is a work of great difficulty; and perhaps the attainment will not repay the labour. The sensible part of mankind will not withdraw all their attention from more important pursuits, to give it entirely up to what promises to repay them only with a very confined species of amusement. In my distribution of birds, therefore, I will follow Linnæus in the first sketch of his system; and then leave him, to follow the most natural distinctions, in enumerating the different kinds that admit of an history, or require a description.

Linnæus divides all birds into six classes: namely, into birds of the *rapacious kind*, birds of the *pie kind*, birds of the *poultry kind*, birds of the *sparrow kind*, birds of the *duck kind*, and birds of the *crane kind*. The four first comprehend the various kinds of land birds; the two last, those that belong to the water.

Birds of the *rapacious kind* constitute that class of carnivorous fowl that live by rapine. He distinguishes them by their beak, which is hooked, strong, and notched at the point; by their legs, which are short and muscular, and made for the purposes of tearing; by their toes, which are strong and knobbed; and their talons, which are sharp and crooked; by the make of their body, which is muscular; and their flesh, which is impure: nor are they less known by their food, which consists entirely of flesh; their stomach, which is membranous; and their manners, which are fierce and cruel.

Birds of the *pie kind* have the bill differing from

the former: as in those it resembled an hook, destined for tearing to pieces; in these it resembles a wedge, fitted for the purpose of cleaving. Their legs are formed short and strong for walking; their body is slender and impure, and their food miscellaneous. They nestle in trees, and the male feeds the female during the time of incubation.

Birds of the *poultry kind* have the bill a little convex, for the purposes of gathering their food. The upper chap hangs over the lower; their bodies are fat and muscular, and their flesh white and pure. They live upon grain, which is moistened in the crop. They make their nest on the ground, without art; they lay many eggs, and use promiscuous venery.

Birds of the *sparrow kind* comprehend all that beautiful and vocal class that adorn our fields and groves, and gratify every sense in its turn. Their bills may be compared to a forceps that catches hold: their legs are formed for hopping along; their bodies are tender; pure in such as feed upon grain, impure in such as live upon insects. They live chiefly in trees; their nests are artificially made, and their amours are observed with connubial fidelity.

Birds of the *duck kind* use their bill as a kind of strainer to their food; it is smooth, covered with a skin, and nervous at the point. Their legs are short, and their feet formed for swimming, the toes being webbed together. Their body is fat, inclining to rancidity. They live in waters, and chiefly build their nests upon land.

With respect to the order of birds that belong to the waters, those of the *crane kind* have the bill form-

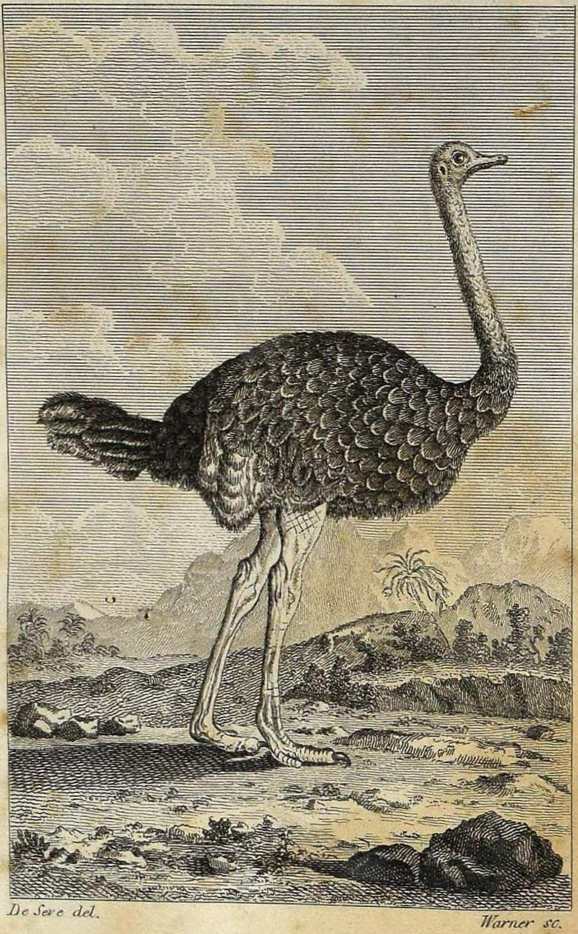
ed for the purposes of searching and examining the bottom of pools: their legs are long and formed for wading; their toes are not webbed; their thighs are half naked; their body is slender, and covered with a very thin skin; their tail is short, and their flesh savoury. They live in lakes upon animals, and they chiefly build their nests upon the ground.

Such is the division of Linnæus, with respect to this class of animals; and at first sight it appears natural and comprehensive. But we must not be deceived by appearances: the student, who should imagine he was making a progress in the history of Nature, while he was only thus making arbitrary distributions, would be very much mistaken. Should he come to enter deeper into this naturalist's plan, he would find birds the most unlike in nature thrown together into the same class; and find animals joined, that entirely differ in climate, in habitudes, in manners, in shape, colouring and size. In such a distribution, for instance, he would find the humming-bird and the raven, the rail and the ostrich, joined in the same family. If when he asked what sort of a creature was the humming-bird, he were told that it was in the same class with the carrion crow, would he not think himself imposed upon? In such a case, the only way to form any idea of the animal whose history he desires to know, is to see it; and that curiosity very few have an opportunity of gratifying. The number of birds is so great, that it might exhaust the patience not only of the writer, but the reader, to examine them all: in the present confined undertaking it would certainly be impossible. I will therefore now

attach myself to a more natural method: and, still keeping the general division of Linnæus before me, enter into some description of the most noted, or the most worth knowing.

Under one or other class, as I shall treat them, the reader will probably find all the species, and all the varieties that demand his curiosity. When the leader of any tribe is described, and its history known, it will give a very tolerable idea of all the species contained under it. It is true, the reader will not thus have his knowledge ranged under such precise distinctions; nor can he be able to say, with such fluency, that the rail is of the ostrich class; but, what is much more material, he will have a tolerable history of the bird he desires to know, or at least of that which most resembles it in nature.

However, it may be proper to apprize the reader that he will not here find his curiosity satisfied, as in some of the former volumes, where we often took M. Buffon for our guide. Those who have hitherto written the natural history of birds, have in general been contented with telling their names, or describing their toes or their plumage. It must often therefore happen, that instead of giving the history of a bird, we must be content to entertain the reader with merely its description. I will therefore divide the following history of birds, with Linnæus, into six parts: in the first of which I will give such as Brisson has ranged among the rapacious birds; next those of the pie kind; and thus go on through the succeeding classes, till I finish with those of the duck kind. But before I enter upon a systematic detail, I will beg leave to give the history of three



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The Ostrich.

or four birds, that do not well range in any system. These, from their great size, are sufficiently distinguishable from the rest; and from their incapacity of flying, lead a life a good deal differing from the rest of the feathered creation. The birds I mean are the Ostrich, the Cassowary, the Emu, the Dodo, and the Solitaire.

CHAP. IV.

The Ostrich.

IN beginning with the feathered tribe, the first animal that offers seems to unite the class of quadrupeds and of birds in itself. While it has the general outline and properties of a bird, yet it retains many of the marks of the quadruped. In appearance the ostrich resembles the camel, and is almost as tall; it is covered with a plumage that resembles hair much more nearly than feathers, and its internal parts bear as near a similitude to those of the quadruped as of the bird creation. It may be considered, therefore, as an animal made to fill up that chasm in nature which separates one class of beings from another.

The ostrich is the largest of all birds. Travellers affirm that they are seen as tall as a man on horseback; and even some of those that have been brought into England were above seven feet high. The head and bill somewhat resemble those of a duck; and the neck may be likened to that of a swan, but that it is much longer; the legs and

thighs resemble those of an hen; though the whole appearance bears a strong resemblance to that of a camel. But to be more particular; it is usually seven feet high from the top of the head to the ground; but from the back it is only four; so that the head and neck are above three feet long. From the top of the head to the rump, when the neck is stretched out in a right line, it is six feet long, and the tail is about a foot more. One of the wings, without the feathers, is a foot and an half; and being stretched out, with the feathers, is three feet.

The plumage is much alike in all; that is, generally black and white; though some of them are said to be grey. The greatest feathers are at the extremities of the wings and tail, and the largest are generally white. The next row is black and white; and of the small feathers, on the back and belly, some are white and others black. There are no feathers on the sides, nor yet on the thighs, nor under the wings. The lower part of the neck, about half way, is covered with still smaller feathers than those on the belly and back; and those, like the former, also are of different colours.

All these feathers are of the same kind, and peculiar to the ostrich; for other birds have several sorts, some of which are soft and downy, and others hard and strong. Ostrich feathers are almost all as soft as down, being utterly unfit to serve the animal for flying, and still less adapted to be a proper defence against external injury. The feathers of other birds have the webs broader on one side than the other, but those of the ostrich have their shaft exactly in the middle. The upper part of the head and neck

are covered with a very fine clear white hair, that shines like the bristles of an hog; and in some places there are small tufts of it, consisting of about twelve hairs, which grow from a single shaft about the thickness of a pin.

At the end of each wing, there is a kind of spur almost like the quill of a porcupine. It is an inch long, being hollow and of an horny substance. There are two of these on each wing; the largest of which is at the extremity of the bone of the wing, and the other a foot lower. The neck seems to be more slender, in proportion to that of other birds, from its not being furnished with feathers. The skin in this part is of a livid flesh colour, which some improperly would have to be blue. The bill is short and pointed, and two inches and an half at the beginning. The external form of the eye is like that of a man, the upper eye-lid being adorned with eye-lashes which are longer than those on the lid below. The tongue is small, very short, and composed of cartilages, ligaments, and membranes, intermixed with fleshy fibres. In some it is about an inch long, and very thick at the bottom. In others it is but half an inch, being a little forked at the end.

The thighs are very fleshy and large, being covered with a white skin, inclining to redness, and wrinkled in the manner of a net, whose meshes will admit the end of a finger. Some have very small feathers here and there on the thighs; and others again have neither feathers nor wrinkles. What are called the legs of birds in this are covered before with large scales. The end of the foot is cloven, and has two very large toes, which, like the leg, are

covered with scales. These toes are of unequal sizes. The largest, which is on the inside, is seven inches long, including the claw, which is near three fourths of an inch in length, and almost as broad. The other toe is but four inches long, and is without a claw.

The internal parts of this animal are formed with no less surprising peculiarity. At the top of the breast, under the skin, the fat is two inches thick; and on the fore-part of the belly it is as hard as suet, and about two inches and an half thick in some places. It has two distinct stomachs. The first, which is lowermost, in its natural situation somewhat resembles the crop in other birds; but it is considerably larger than the other stomach, and is furnished with strong muscular fibres, as well circular as longitudinal. The second stomach, or gizzard, has outwardly the shape of the stomach of a man; and upon opening is always found filled with a variety of discordant substances; hay, grass, barley, beans, bones, and stones, some of which exceed in size a pullet's egg. The kidneys are eight inches long and two broad, and differ from those of other birds in not being divided into lobes. The heart and lungs are separated by a midriff, as in quadrupeds; and the parts of generation also bear a very strong resemblance and analogy.

Such is the structure of this animal, forming the shade that unites birds and quadrupeds; and from this structure its habits and manners are entirely peculiar. It is a native only of the torrid regions of Africa, and has long been celebrated by those who have had occasion to mention the animals of that region. Its flesh is proscribed in Scripture as

unfit to be eaten; and most of the ancient writers describe it as well known in their times. Like the race of the elephant, it is transmitted down without mixture; and has never been known to breed out of that country which first produced it. It seems formed to live among the sandy and burning deserts of the torrid zone; and, as in some measure it owes its birth to their genial influence, so it seldom migrates into tracts more mild or more fertile. As that is the peculiar country of the elephant, the rhinoceros, and camel, so it may readily be supposed capable of affording a retreat to the ostrich. They inhabit from preference the most solitary and horrid deserts, where there are few vegetables to clothe the surface of the earth, and where the rain never comes to refresh it. The Arabians assert that the ostrich never drinks; and the place of its habitation seems to confirm the assertion. In these formidable regions, ostriches are seen in large flocks, which to the distant spectator appear like a regiment of cavalry, and have often alarmed a whole caravan. There is no desert, how barren soever, but what is capable of supplying these animals with provision; they eat almost every thing; and these barren tracts are thus doubly grateful, as they afford both food and security. The ostrich is of all other animals the most voracious. It will devour leather, grass, hair, iron, stones, or any thing that is given. Nor are its powers of digestion less in such things as are digestible. Those substances which the coats of the stomach cannot soften, pass whole; so that glass, stones, or iron, are excluded in the form in which they were devoured. All metals, indeed, which are swallowed by any animal, lose

a part of their weight, and often the extremities of their figure, from the action of the juices of the stomach upon their surface. A quarter pistole, which was swallowed by a duck, lost seven grains of its weight in the gizzard before it was voided; and it is probable that a still greater diminution of weight would happen in the stomach of an ostrich; considered in this light, therefore, this animal may be said to digest iron; but such substances seldom remain long enough in the stomach of any animal to undergo so tedious a dissolution. However this be, the ostrich swallows almost every thing presented to it. Whether this be from the necessity which smaller birds are under of picking up gravel to keep the coats of their stomach asunder, or whether it be from a want of distinguishing by the taste what substances are fit and what incapable of digestion; certain it is, that in the ostrich dissected by Ranby there appeared such a quantity of heterogeneous substances, that it was wonderful how any animal could digest such an overcharge of nourishment. Valisnieri also found the first stomach filled with a quantity of incongruous substances; grass, nuts, cords, stones, glass, brass, copper, iron, tin, lead, and wood; a piece of stone was found among the rest that weighed more than a pound. He saw one of these animals that was killed by devouring a quantity of quick-lime. It would seem that the ostrich is obliged to fill up the great capacity of its stomach in order to be at ease; but that nutritious substances not occurring, it pours in whatever offers to supply the void.

In their native deserts, however, it is probable they live chiefly upon vegetables, where they lead

an inoffensive and social life; the male, as Thevenot assures us, assorting with the female with connubial fidelity. They are said to be very much inclined to venery; and the make of the parts in both sexes seems to confirm the report. It is probable also they copulate, like other birds, by compression; and they lay very large eggs, some of them being above five inches in diameter, and weighing above fifteen pounds. These eggs have a very hard shell, somewhat resembling those of the crocodile, except that those of the latter are less and rounder.

The season for laying depends on the climate where the animal is bred. In the northern parts of Africa, this season is about the beginning of July; in the south, it is about the latter end of December. These birds are very prolific, and lay generally from forty to fifty eggs at one clutch. It has been commonly reported that the female deposits them in the sand; and, covering them up, leaves them to be hatched by the heat of the climate and then permits the young to shift for themselves. Very little of this however is true: no bird has a stronger affection for her young than the ostrich, nor none watches her eggs with greater assiduity. It happens, indeed, in those hot climates, that there is less necessity for the continual incubation of the female; and she more frequently leaves her eggs, which are in no fear of being chilled by the weather: but though she sometimes forsakes them by day, she always carefully broods over them by night; and Kolben, who has seen great numbers of them at the Cape of Good Hope, affirms that they sit on their eggs like other birds, and that the male and female take this office

by turns, as he had frequent opportunities of observing. Nor is it more true what is said of their forsaking their young after they are excluded the shell. On the contrary, the young ones are not even able to walk for several days after they are hatched. During this time, the old ones are very assiduous in supplying them with grass, and very careful to defend them from danger: nay, they encounter every danger in their defence. It was a way of taking them among the ancients, to plant a number of sharp stakes round the ostrich's nest in her absence, upon which she pierced herself at her return. The young, when brought forth, are of an ash colour the first year, and are covered with feathers all over. But in time these feathers drop; and those parts which are covered assume a different and more becoming plumage.

The beauty of a part of this plumage, particularly the long feathers that compose the wings and tail, is the chief reason that man has been so active in pursuing this harmless bird to its deserts, and hunting it with no small degree of expence and labour. The ancients used those plumes in their helmets; the ladies of the East make them an ornament in their dress; and among us, our undertakers and our fine gentlemen still make use of them to decorate their hearses and their hats. Those feathers which are plucked from the animal while alive are much more valued than those taken when dead, the latter being dry, light, and subject to be worm-eaten.

Beside the value of their plumage, some of the savage nations of Africa hunt them also for their flesh; which they consider as a dainty. They some-

times also breed these birds tame to eat the young ones, of which the female is said to be the greatest delicacy. Some nations have obtained the name of Struthophagi, or ostrich-eaters, from their peculiar fondness for this food; and even the Romans themselves were not averse to it. Apicius gives us a receipt for making sauce for the ostrich; and Heliogabalus is noted for having dressed the brains of six hundred ostriches in one dish; for it was his custom never to eat but of one dish in a day, but that was an expensive one. Even among the Europeans now, the eggs of the ostrich are said to be well tasted, and extremely nourishing; but they are too scarce to be fed upon, although a single egg be a sufficient entertainment for eight men.

As the spoils of the ostrich are thus valuable, it is not to be wondered at that man has become their most assidious pursuer. For this purpose, the Arabians train up their best and fleetest horses; and hunt the ostrich still in view. Perhaps, of all other varieties of the chace, this, though the most laborious, is yet the most entertaining. As soon as the hunter comes within sight of his prey he puts on his horse with a gentle gallop, so as to keep the ostrich still in sight; yet not so as to terrify him from the plain into the mountains. Of all known animals that make use of their legs in running, the ostrich is by far the swiftest: upon observing himself therefore pursued at a distance, he begins to run at first but gently; either insensible of his danger, or sure of escaping. In this situation he somewhat resembles a man at full speed; his wings, like two arms, keep working with a motion correspondent to that of his legs; and his speed would very soon snatch him from

the view of his pursuers, but, unfortunately for the silly creature, instead of going off in a direct line, he takes his course in circles; while the hunters still make a small course within, relieve each other, meet him at unexpected turns, and keep him thus still employed, still followed, for two or three days together. At last, spent with fatigue and famine, and finding all power of escape impossible, he endeavours to hide himself from those enemies he cannot avoid, and covers his head in the sand, or the first thicket he meets. Sometimes, however, he attempts to face his pursuers; and, though in general the most gentle animal in nature, when driven to desperation he defends himself with his beak, his wings and his feet. Such is the force of his motion, that a man would be utterly unable to withstand him in the shock.

The Struthophagi have another method of taking this bird; they cover themselves with an ostrich's skin, and passing up an arm through the neck, thus counterfeit all the motions of this animal. By this artifice they approach the ostrich, which becomes an easy prey. He is sometimes also taken by dogs and nets: but the most usual way is that mentioned above.

When the Arabians have thus taken an ostrich, they cut its throat, and making a ligature below the opening, they shake the bird, as one would rinse a barrel; then taking off the ligature, there runs out from the wound in the throat a considerable quantity of blood mixed with the fat of the animal; and this is considered as one of their greatest dainties. They next flay the bird; and of the skin, which is strong and thick, sometimes make a kind of vest, which answers the purposes of a cuirass and a buckler.

There are others who, more compassionate or more provident, do not kill their captive, but endeavour to tame it, for the purposes of supplying those feathers which are in so great request. The inhabitants of Dara and Lybia breed up whole flocks of them, and they are tamed with very little trouble. But it is not for their feathers alone that they are prized in this domestic state; they are often ridden upon, and used as horses. Moore assures us, that at Joar he saw a man travelling upon an ostrich; and Adanson asserts that, at the factory of Podore, he had two ostriches, which were then young, the strongest of which ran swifter than the best English racer, although he carried two negroes on his back. As soon as the animal perceived that it was loaded, it set off running with all its force, and made several circuits round the village; till at length the people were obliged to stop it by barring up the way. How far this strength and swiftness may be useful to mankind, even in a polished state, is a matter that perhaps deserves enquiry. Posterity may avail themselves of this creature's abilities; and riding upon an ostrich may one day become the favourite, as it most certainly is the swiftest mode of conveyance.

The parts of this animal are said to be convertible to many salutary purposes in medicine. The fat is said to be emollient and relaxing; that while it relaxes the tendons, it fortifies the nervous system, and being applied to the region of the loins, it abates the pains of the stone in the kidney.s The shell of the egg powdered, and given in proper quantities, is said to be useful in promoting urine, and dissolving the stone in the bladder. The substance of the

egg itself is thought to be peculiarly nourishing; however, Galen, in mentioning this, asserts, that the eggs of hens and pheasants are good to be eaten; those of geese and ostriches are the worst of all*.

CHAP. V.

The Emu.

OF this bird, which many call the American Ostrich, but little is certainly known. It is an inhabitant of the New Continent; and the travellers who

* [When the ostrich runs, says Thumberg, it has a proud and haughty look; and even when in extreme distress, never appears in great haste, especially if the wind is with it. Its wings are frequently of material use in aiding its escape; for when the wind blows in the direction that it is pursuing, it always flaps them. In this case the swiftest horse cannot overtake it, but if the weather be hot, and there be no wind, or if it has by any accident lost a wing, the difficulty of outrunning it is not so great.

Adjoining to the nest are always placed a certain number of eggs which the birds do not sit upon. These it is affirmed, are designed for the nourishment of the future young. M. le Vaillant found a female Ostrich on a nest containing thirty-two eggs; and at a little distance, twelve other eggs were arranged, each in a separate cavity. He remained near the place sometime, and saw three other females come and alternately sit on the nest, each sitting for about a quarter of an hour, and then giving place to another, who while she was waiting, sat close by the side of her whom she was to succeed. So delicate are these birds with respect to their eggs, that if they are touched by any person during their absence, they not only immediately discover it by the scent, but trample to pieces all that remain in the nest. The Africans are therefore very careful when they take away part of the eggs, not to touch them with their hands, but push them out of the nest with long sticks. In the eggs are sometimes found a number of small hard pebbles.]

have mentioned it, seem to have been more solicitous in proving its affinity to the ostrich than in describing those peculiarities which distinguish it from all others of the feathered creation.

It is chiefly found in Guiana, along the banks of the Oroonoko, in the inland provinces of Brasil and Chili, and the vast forests that border on the mouth of the river Plata. Many other parts of South America were known to have them; but as men multiplied, these large and timorous birds either fell beneath their superior power, or fled from their vicinity.

The Emu, though not so large as the ostrich, is only second to it in magnitude. It is by much the largest bird in the New Continent; and is generally found to be six feet high, measuring from its head to the ground. Its legs are three feet long; and its thigh is near as thick as that of a man. The toes differ from those of the ostrich; as there are three in the American bird, and but two in the former. Its neck is long, its head small, and the bill flatted, like that of the ostrich; but, in all other respects, it more resembles a cassowary, a large bird, to be described hereafter. The form of the body appears round, the wings are short, and entirely unfitted for flying, and it wants a tail. It is covered from the back and rump with long feathers, which fall backward, and cover the anus: these feathers are grey upon the back, and white on the belly. It goes very swiftly, and seems assisted in its motion by a kind of tubercle behind, like an heel, upon which, on plain ground, it treads very securely; in its course it uses a very odd kind of action, lifting up one wing, which it keeps elevated for a time; till, letting it drop, it

lifts up the other. What the bird's intention may be in thus keeping only one wing up, is not easy to discover; whether it makes use of this as a sail to catch the wind, or whether as a rudder to turn its course, in order to avoid the arrows of the Indians, yet remains to be ascertained: however this be, the emu runs with such a swiftness that the fleetest dogs are thrown out in the pursuit. One of them, finding itself surrounded by the hunters, darted among the dogs with such fury that they made way to avoid its rage; and it escaped, by its amazing velocity, in safety to the mountains.

As this bird is but little known, so travellers have given a loose to their imaginations in describing some of its actions, which they were conscious could not be easily contradicted. This animal, says Nierenberg, is very peculiar in the hatching of its young. The male compels twenty or thirty of the females to lay their eggs in one nest; he then, when they have done laying, chases them away, and places himself upon the eggs; however, he takes the singular precaution of laying two of the number aside, which he does not sit upon. When the young ones come forth, these two eggs are addled; which the male having foreseen, breaks one, and then another, upon which multitudes of flies are found to settle; and these supply the young brood with a sufficiency of provision, till they are able to shift for themselves.

On the other hand, Wafer asserts, that he has seen great quantities of this animal's eggs on the desert shores, north of the river Plata; where they were buried in the sand, in order to be hatched by the heat of the climate. Both this, as well as the

Martinet del. Warner sc.

The Caſsowary.

preceding account, may be doubted: and it is more probable that it was the crocodile's eggs which Wafer had seen, which are undoubtedly hatched in that manner.

When the young ones are hatched, they are familiar and follow the first person they meet. I have been followed myself, says Wafer, by many of these young ostriches; which, at first, are extremely harmless and simple: but as they grow older, they become more cunning and distrustful; and run so swift, that a greyhound can scarcely overtake them. Their flesh, in general, is good to be eaten; especially if they be young. It would be no difficult matter to rear up flocks of these animals tame, particularly as they are naturally so familiar; and they might be found to answer domestic purposes, like the hen or the turkey. Their maintenance could not be expensive, if, as Narborough says, they live entirely upon grass.

CHAP. VI.

The Cassowary.

THE Cassowary is a bird which was first brought into Europe by the Dutch, from Java, in the East-Indies, in which part of the world it is only to be found. Next to the preceding, it is the largest and the heaviest of the feathered species.

The cassowary, though not so large as the former, yet appears more bulky to the eye; its body being nearly equal, and its neck and legs much thicker and stronger in proportion; this conformation gives it an air of strength and force, which the fierceness

and singularity of its countenance conspire to render formidable. It is five feet and an half long, from the point of the bill to the extremity of the claws. The legs are two feet and an half high, from the belly to the end of the claws. The head and neck together are a foot and an half; and the largest toe, including the claw, is five inches long. The claw alone of the least toe is three inches and an half in length. The wing is so small, that it does not appear; it being hid under the feathers of the back. In other birds, a part of the feathers serve for flight, and are different from those that serve for merely covering; but in the cassowary, all the feathers are of the same kind, and outwardly of the same colour. They are generally double; having two long shafts, which grow out of a short one, which is fixed in the skin. Those that are double are always of an unequal length; for some are fourteen inches long, particularly on the rump; while others are not above three. The beards that adorn the stem or shaft, are from about half way to the end, very long, and as thick as an horse-hair, without being subdivided into fibres. The stem or shaft is flat, shining, black, and knotted below; and from each knot there proceeds a beard: likewise, the beards at the end of the large feathers are perfectly black; and towards the root of a grey tawny colour; shorter, more soft, and throwing out fine fibres, like down; so that nothing appears except the ends, which are hard and black; because the other part, composed of down, is quite covered. There are feathers on the head and neck; but they are so short, and thinly sown, that the bird's skin appears naked, except towards the hinder part of the head, where they are a little longer.

The feathers which adorn the rump are extremely thick; but do not differ, in other respects, from the rest, excepting their being longer. The wings, when they are deprived of their feathers, are but three inches long; and the feathers are like those on other parts of the body. The ends of the wings are adorned with five prickles of different lengths and thickness, which bend like a bow: these are hollow from the roots to the very points, having only that slight substance within which all quills are know to have. The longest of these prickles is eleven inches; and it is a quarter of an inch in diameter at the root, being thicker there than towards the extremity; the point seems broken off.

The part however, which most distinguishes this animal is the head; this, though small like that of an ostrich, does not fail to inspire some degree of terror. It is bare of feathers, and is in a manner armed with an helmet of horny substance, that covers it from the root of the bill to near half the head backwards. This helmet is black before and yellow behind. Its substance is very hard, being formed by the elevation of the bone of the skull; and it consists of several plates, one over another, like the horn of an ox. Some have supposed that this was shed every year with the feathers; but the most probable opinion is, that it only exfoliates slowly like the beak. To the peculiar oddity of this natural armour may be added the colour of the eye in this animal, which is a bright yellow, and the globe being above an inch and an half in diameter, gives it an air equally fierce and extraordinary. At the bottom of the upper eye-lid, there is a row of small hairs, over which there is another row of black

hair, which look pretty much like an eye-brow. The lower eye-lid, which is the largest of the two, is furnished also with plenty of black hair. The hole of the ear is very large and open, being only covered with small black feathers. The sides of the head, about the eye and ear, being destitute of any covering, are blue, except the middle of the lower eye-lid, which is white. The part of the bill which answers to the upper jaw in other animals, is very hard at the edges above, and the extremity of it like that of a turkey-cock. The end of the lower mandible is slightly notched, and the whole is of a greyish brown, except a green spot on each side. As the beak admits a very wide opening, this contributes not a little to the bird's menacing appearance. The neck is of a violet colour, inclining to that of slate; and it is red behind in several places, but chiefly in the middle. About the middle of the neck before, at the rise of the large feathers, there are two processes formed by the skin, which resemble somewhat the gills of a cock, but that they are blue as well as red. The skin which covers the forepart of the breast on which this bird leans and rests, is hard, callous, and without feathers. The thighs and legs are covered with feathers, and are extremely thick, strong, straight, and covered with scales of several shapes; but the legs are thicker a little above the foot than in any other place. The toes are likewise covered with scales, and are but three in number; for that which should be behind is wanting. The claws are of a hard solid substance, black without, and white within.

The internal parts are equally remarkable. The cassowary unites with the double stomach of ani-

mals that live upon vegetables, the short intestines of those that live upon flesh. The intestines of the cassowary are thirteen times shorter than those of the ostrich. The heart is very small, being but an inch and an half long, and an inch broad at the base. Upon the whole, it has the head of a warrior, the eye of a lion, the defence of a porcupine, and the swiftness of a courser.

Thus formed for a life of hostility, for terrifying others, and for its own defence, it might be expected that the cassowary was one of the most fierce and terrible animals of the creation. But nothing is so opposite to its natural character, nothing so different from the life it is contented to lead. It never attacks others; and instead of the bill, when attacked, it rather makes use of its legs, and kicks like an horse, or runs against its pursuer, beats him down, and treads him to the ground.

The manner of going of this animal is not less extraordinary than its appearance. Instead of going directly forward, it seems to kick up behind with one leg, and then making a bound onward with the other, it goes with such prodigious velocity, that the swiftest racer would be left far behind.

The same degree of voraciousness which we perceived in the ostrich, obtains as strongly here. The cassowary swallows every thing that comes within the capacity of its gullet. The Dutch assert that it can devour not only glass, iron, and stones, but even live and burning coals, without testifying the smallest fear, or feeling the least injury. It is said that the passage of the food through its gullet is performed so speedily that even the very

eggs which it has swallowed whole pass through it unbroken, in the same form they went down. In fact, the alimentary canal of this animal, as was observed above, is extremely short; and it may happen that many kinds of food are indigestible in its stomach, as wheat or currants are to man, when swallowed whole.

The cassowary's eggs are of a grey ash-colour, inclining to green. They are not so large nor so round as those of the ostrich. They are marked with a number of little tubercles of a deep green, and the shell is not very thick. The largest of these is found to be fifteen inches round one way, and about twelve the other.

The southern parts of the most eastern Indies seems to be the natural climate of the cassowary. His domain, if we may so call it, begins where that of the ostrich terminates. The latter has never been found beyond the Ganges, while the cassowary is never seen nearer than the islands of Banda, Sumatra, Java, the Molucca Islands, and the corresponding parts of the continent. Yet even here this animal seems not to have multiplied in any considerable degree, as we find one of the kings of Java making a present of one of these birds to the captain of a Dutch ship, considering it as a very great rarity. The ostrich, that has kept in the desert and unpeopled regions of Africa, is still numerous, and the unrivalled tenant of its own inhospitable climate. But the cassowary, that is the inhabitant of a more peopled and polished region, is growing scarcer every day. It is thus that in proportion as man multiplies, all the savage and noxious animals fly before him: at his approach they quit their ancient habi-

Warner sc.

Dodo

tations, how adapted soever they may be to their natures, and seek a more peaceable though barren retreat; where they willingly exchange plenty for freedom; and encounter all the dangers of famine, to avoid the oppressions of an unrelenting destroyer.

CHAP. VII.

The Dodo.

MANKIND have generally made swiftness the attribute of birds; but the Dodo has no title to this distinction. Instead of exciting the idea of swiftness by its appearance, it seems to strike the imagination as a thing the most unwieldy and inactive of all nature. Its body is massive, almost round, and covered with grey feathers; it is just barely supported upon two short thick legs like pillars, while its head and neck rise from it in a manner truly grotesque. The neck, thick and pursy, is joined to the head, which consists of two great chaps, that open far behind the eyes, which are large, black and prominent; so that the animal when its gapes seems to be all mouth. The bill therefore is of an extraordinary length, not flat and broad, but thick, and of a bluish white, sharp at the end, and each chap crooked in opposite directions. They resemble two pointed spoons that are laid together by the backs. From all this results a stupid and voracious physiognomy; which is still more increased by a bordering of feathers round the root of the beak, and which gives the appearance of an hood or cowl, and finish this picture of stupid deformity. Bulk, which in

other animals implies strength, in this only contributes to inactivity. The ostrich, or the cassowary, are no more able to fly than the animal before us; but then they supply that defect by their speed in running. The dodo seems weighed down by its own heaviness, and has scarcely strength to urge itself forward. It seems among birds what the sloth is among quadrupeds, an unresisting thing, equally incapable of flight or defence. It is furnished with wings, covered with soft ash-coloured feathers, but they are too short to assist it in flying. It is furnished with a tail, with a few small curled feathers; but this tail is disproportioned and displaced. Its legs are too short for running, and its body too fat to be strong. One would take it for a tortoise that had supplied itself with the feathers of a bird; and that thus dressed out with the instruments of flight, it was only still the more unwieldy.

This bird is a native of the Isle of France; and the Dutch, who first discovered it there, called it in their language the *nauseous bird*, as well from its disgusting figure, as from the bad taste of its flesh. However, succeeding observers contradict the first report, and assert that its flesh is good and wholesome eating. It is a silly simple bird, as may very well be supposed from its figure, and is very easily taken. Three or four dodos are enough to dine an hundred men.

Whether the dodo be the same bird with that which some travellers have described under the bird of Nazareth, yet remains uncertain. The country from whence they both come is the same; their incapacity of flying is the same; the form of the wings and body in both are similar; but the

chief difference given is in the colour of the feathers, which in the female of the bird of Nazareth are said to be extremely beautiful; and in the length of their legs, which in the dodo are short; in the other, are described as long. Time and future observation must clear up these doubts; and the testimony of a single witness, who shall have seen both, will throw more light on the subject than the reasonings of an hundred philosophers.

CHAP. VIII.

Of Rapacious Birds in general.

THERE seems to obtain a general resemblance in all the classes of nature. As among quadrupeds a part were seen to live upon the vegetable productions of the earth, and another part upon the flesh of each other, so among birds, some live upon vegetable food, and others by rapine, destroying all such as want force or swiftness to procure their safety. By thus peopling the woods with animals of different dispositions, Nature has wisely provided for the multiplication of life; since, could we suppose that there were as many animals produced as there were vegetables supplied to sustain them, yet there might still be another class of animals formed, which could find a sufficient sustenance by feeding upon such of the vegetable feeders as happened to fall by the course of nature. By this contrivance, a greater number will be sustained upon the whole; for the numbers would be but very thin, were every creature a candidate for the

same food. Thus, by supplying a variety of appetites, Nature has also multiplied life in her productions.

In thus varying their appetites, Nature has also varied the form of the animal; and while she has given some an instinctive passion for animal food, she has also furnished them with powers to obtain it. All land-birds of the rapacious kinds are furnished with a large head, and a strong crooked beak, notched at the end, for the purpose of tearing their prey. They have strong short legs, and sharp crooked talons for the purpose of seizing it. Their bodies are formed for war, being fibrous and muscular; and their wings for swiftness of flight, being well feathered and expansive. The sight of such as prey by day is astonishingly quick; and such as ravage by night have their sight so fitted as to see objects in darkness with extreme precision*.

Their internal parts are equally formed for the food they seek for. Their stomach is simple and membranous, and wrapped in fat to increase the powers of digestion; and their intestines are short and glandular. As their food is succulent and juicy, they want no length of intestinal tube to form it into proper nourishment. Their food is flesh; which does not require a slow digestion, to be converted into a similitude of substance to their own.

Thus formed for war, they lead a life of solitude and rapacity. They inhabit, by choice, the most

* [The animals of this order are all carnivorous: they associate in pairs, build their nests in the most lofty situations, and produce generally four young ones at a brood: and the female is mostly larger than the male. They consist of vultures, eagles, hawks, and owls.]

lonely places and the most desert mountains. They make their nests in the clefts of rocks, and on the highest and most inaccessible trees of the forest. Whenever they appear in the cultivated plain or the warbling grove, it is only for the purposes of depredation; and are gloomy intruders on the general joy of the landscape. They spread terror wherever they approach: all that variety of music which but a moment before enlivened the grove, at their appearing is instantly at an end: every order of lesser birds seek for safety, either by concealment or flight; and some are even driven to take protection with man to avoid their less merciful pursuers.

It would indeed be fatal to all the smaller race of birds, if, as they are weaker than all, they were also pursued by all; but it is contrived wisely for their safety, that every order of carnivorous birds seek only for such as are of the size most approaching their own. The eagle flies at the bustard or the pheasant; the sparrow-hawk pursues the thrush and the linnet. Nature has provided that each species should make war only on such as are furnished with adequate means of escape. The smallest birds avoid their pursuers by the extreme agility, rather than the swiftness of their flight; for every order would soon be at an end, if the eagle, to its own swiftness of wing, added the versatility of the sparrow.

Another circumstance which tends to render the tyranny of these animals more supportable is, that they are less fruitful than other birds, breeding but few at a time. Those of the larger kind seldom produce above four eggs, often but two; those of the smaller kinds, never above six or seven. The pi-

geon, it is true, that is their prey, never breeds above two at a time; but then she breeds every month in the year. The carnivorous kinds only breed annually, and of consequence their fecundity is small in comparison.

As they are fierce by nature, and are difficult to be tamed, so this fierceness extends even to their young, which they force from the nest sooner than birds of the gentler kind. Other birds seldom forsake their young till able, completely, to provide for themselves; the rapacious kinds expel them from the nest at a time when they still should protect and support them. This severity to their young proceeds from the necessity of providing for themselves. All animals that, by the conformation of their stomach and intestines, are obliged to live upon flesh, and support themselves by prey, though they may be mild when young, soon become fierce and mischievous, by the very habit of using those arms with which they are supplied by Nature. As it is only by the destruction of other animals that they can subsist, they become more furious every day; and even the parental feelings are overpowered in their general habits of cruelty. If the power of obtaining a supply be difficult, the old ones soon drive their brood from the nest to shift for themselves, and often destroy them in a fit of fury caused by hunger.

Another effect of this natural and acquired severity is, that almost all birds of prey are unsociable. It has long been observed, by Aristotle, that all birds, with crooked beaks and talons, are solitary: like quadrupeds of the cat kind, they lead a lonely wandering life, and are united only in pairs, by that in-

stinct which overpowers their rapacious habits of enmity with all other animals. As the male and female are often necessary to each other in their pursuits, so they sometimes live together; but, except at certain seasons, they most usually prowl alone; and like robbers, enjoy in solitude the fruits of their plunder.

All birds of prey are remarkable for one singularity, for which it is not easy to account. All the males of these birds are about a third less, and weaker than the females; contrary to what obtains among quadrupeds, among which the males are always the largest and boldest: from thence the male is called by falconers, a *tarcel;* that is, a tierce or third less than the other. The reason of this difference cannot proceed from the necessity of a larger body in the female for the purposes of breeding, and that her volume is thus increased by the quantity of her eggs; for in other birds, that breed much faster, and that lay in much great proportion, such as the hen, the duck, or the pheasant, the male is by much the largest of the two. Whatever be the cause, certain it is, that the females, as Willughby expresses it, are of greater size, more beautiful and lovely for shape and colours, stronger, more fierce and generous, than the males; whether it may be that it is necessary for the female to be thus superior; as it is incumbent upon her to provide, not only for herself, but her young ones also.

These birds, like quadrupeds of the carnivorous kind, are all lean and meagre. Their flesh is stringy and ill-tasted, soon corrupting, and tinctured with the flavour of that animal food upon which they subsist. Nevertheless, Belonius asserts, that many

people admire the flesh of the vulture and falcon, and dress them for eating, when they meet with any accident that unfits them for the chace. He asserts, that the osprey, a species of the eagle, when young, is excellent food: but he contents himself with advising us, to breed these birds up for our pleasure rather in the field, than for the table.

Of land birds of a rapacious nature, there are five kinds. The eagle kind, the hawk kind, the vulture kind, the horned owl, and the screech owl kind. The distinctive marks of this class are taken from their claws and beak: their toes are separated: their legs are feathered to the heel: their toes are four in number; three before, one behind: their beak is short, thick and crooked.

The eagle kind is distinguished from the rest by his beak, which is straight till towards the end, when it begins to hook downwards.

The vulture kind is distinguished by the head and neck: which are without feathers.

The hawk kind by the beak; being hooked from the very root.

The horned owl by the feathers at the base of the bill standing forwards; and by some feathers on the head, that stand out, resembling horns.

The screech owl, by the feathers at the base of the bill standing forward, and being without horns. A description of one in each kind, will serve for all the rest.

CHAP. IX

The Eagle, and its Affinities.

THE Golden Eagle is the largest and the noblest of all those birds that have received the name of Eagle. It weighs above twelve pounds. Its length is three feet; the extent of its wings, seven feet four inches; the bill is three inches long, and of a deep blue colour; and the eye of an hazel colour. The sight and sense of smelling are very acute. The head and neck are clothed with narrow sharp pointed feathers, and of a deep brown colour, bordered with tawny; but those on the crown of the head, in very old birds, turn grey. The whole body, above as well as beneath, is of a dark brown, and the feathers of the back are finely clouded with a deeper shade of the same. The wings when clothed reach to the end of the tail. The quill feathers are of a chocolate colour, the shafts white. The tail is of a deep brown, irregularly barred and blotched with an obscure ash colour, and usually white at the roots of the feathers. The legs are yellow, short, and very strong, being three inches in circumference, and feathered to the very feet. The toes are covered with large scales, and armed with the most formidable claws, the middle of which are two inches long.

In the rear of this terrible bird follow the *ring-tailed eagle*, the *common eagle*, the *bald eagle*, the *white eagle*, the *kough footed eagle*, the *ern*, the *black eagle*, the *osprey*, the *sea-eagle* and the *crowned eagle*.

These, and others that might be added, form different shades in this fierce family; but have all the same rapacity, the same general form, the same habits, and the same manner of bringing up their young.

In general, these birds are found in mountainous and ill-peopled countries, and breed among the loftiest cliffs. They chuse those places which are remotest from man, upon whose possessions they but seldom make their depredations, being contented rather to follow the wild game in the forest, than to risque their safety to satisfy their hunger.

This fierce animal may be considered among birds as the lion among quadrupeds; and in many respects they have a strong similitude to each other. They are both possessed of force, and an empire over their fellows of the forest. Equally magnanimous, they disdain smaller plunder; and only pursue animals worthy the conquest. It is not till after having been long provoked, by the cries of the rook or the magpie, that this generous bird thinks fit to punish them with death: the eagle also disdains to share the plunder of another bird; and will take up with no other prey but that which he has acquired by his own pursuits. How hungry soever he may be, he never stoops to carrion; and when satiated, he never returns to the same carcase, but leaves it for other animals, more rapacious and less delicate than he. Solitary, like the lion, he keeps the desert to himself alone; it is as extraordinary to see two pair of eagles in the same mountain, as two lions in the same forest. They keep separate, to find a more ample supply; and consider the quantity of their game as the best proof

of their dominion. Nor does the similitude of these animals stop here: they have both sparkling eyes, and nearly of the same colour; their claws are of the same form, their breath equally strong, and their cry equally loud and terrifying. Bred both for war, they are enemies of all society: alike fierce, proud, and incapable of being easily tamed. It requires great patience and much art to tame an eagle; and even though taken young, and brought under by long assiduity, yet still it is a dangerous domestic and often turns its force against its master. When brought into the field for the purposes of fowling the falconer is never sure of its attachment; that innate pride, and love of liberty, still prompt it to regain in its native solitudes; and the moment the falconer sees it, when let loose, first stoop towards the ground, and then rise perpendicularly into the clouds, he gives up all his former labour for lost; quite sure of never beholding his late prisoner more. Sometimes, however they are brought to have an attachment for their feeder: they are then highly serviceable, and liberally provide for his pleasures and support. When the falconer lets them go from his hand, they play about and hover round him till their game presents, which they see at an immense distance, and pursue with certain destruction.

Of all animals the eagle flies highest; and from thence the ancients have given him the epithet of *the bird of Heaven*. Of all others also, he has the quickest eye; but his sense of smelling is far inferior to that of the vulture. He never pursues, therefore, but in sight; and when he has seized his prey, he stoops from his height, as if to examine its weight, always laying it on the ground before he

carries it off. As his wing is very powerful, yet, as he has but little suppleness in the joints of the leg, he finds it difficult to rise when down; however, if not instantly pursued he finds no difficulty in carrying off geese and cranes. He also carries away hares, lambs, and kids; and often destroys fawns and calves, to drink their blood, and carries a part of their flesh to his retreat. Infants themselves, when left unattended, have been destroyed by these rapacious creatures; which probably gave rise to the fable of Ganymede's being snatched up by an eagle to heaven.

An instance is recorded in Scotland of two children being carried off by eagles; but fortunately they received no hurt by the way; and the eagles being pursued, the children were restored unhurt out of the nests to the affrighted parents.

The eagle is thus at all times a formidable neighbour; but peculiarly when bringing up its young. It is then that the female, as well as the male, exert all their force and industry to supply their young. Smith, in his History of Kerry, relates, that a poor man in that country got a comfortable subsistence for his family, during a summer of famine, out of an eagle's nest, by robbing the eaglets of food, which was plentifully supplied by the old ones. He protracted their assiduity beyond the usual time by clipping the wings, and retarding the flight of the young, and very probably also, as I have known myself, by so tying them as to increase their cries, which is always found to increase the parent's dispatch to procure them provision. It was lucky, however, that the old eagles did not surprise the

countryman as he was thus employed, as their resentment might have been dangerous.

It happened some time ago, in the same country, that a peasant resolved to rob the nest of an eagle that had built in a small island, in the beautiful lake of Killarney. He accordingly stripped, and swam in upon the island while the old ones were away; and, robbing the nest of its young, he was preparing to swim back, with the eaglets tied in a string; but, while he was yet up to his chin in the water, the old eagles returned, and, missing their young, quickly fell upon the plunderer, and, in spite of all his resistance, dispatched him with their beaks and talons.

In order to extirpate these pernicious birds, there is a law in the Orkney islands which entitles any person that kills an eagle to a hen out of every house in the parish in which the plunderer is killed.

The nest of the eagle is usually built in the most inaccessible cliff of the rock, and often shielded from the weather by some jutting crag that hangs over it. Sometimes, however, it is wholly exposed to the winds, as well sideways as above; for the nest is flat, though built with great labour. It is said that the same nest serves the eagle during life; and indeed the pains bestowed in forming it seems to argue as much. One of these was found in the Peak of Derbyshire; which Willughby thus describes. "It was made of great sticks, resting one "end on the edge of a rock, the other on two birch "trees. Upon these was a layer of rushes, and "over them a layer of heath, and upon the heath "rushes again; upon which lay one young one, "and an addle egg; and by them a lamb, a hare,

" and three heath-pouts. The nest was about two " yards square, and had no hollow in it. The " young eagle was of the shape of a goshawk, of " almost the weight of a goose, rough-footed, or " feathered down to the foot, having a white ring " about the tail." Such is the place where the female eagle deposits her eggs; which seldom exceed two at a time in the larger species, and not above three in the smallest. It is said that she hatches them for thirty days: but frequently, even of this small number of eggs, a part is addled; and it is extremely rare to find three eaglets in the same nest. It is asserted, that as soon as the young ones are somewhat grown, the mother kills the most feeble or the most voracious. If this happens, it must proceed only from the necessities of the parent, who is incapable of providing for their support; and is content to sacrifice a part to the welfare of all.

The plumage of the eaglets is not so strongly marked as when they come to be adult. They are at first white; then inclining to yellow; and at last of light brown. Age, hunger, long captivity, and diseases, make them whiter. It is said, they live above an hundred years; and that they at last die, not of old age, but from the beaks turning inward upon the under mandible, and thus preventing their taking any food. They are equally remarkable, says Mr. Pennant, for their longevity, and for their power of sustaining a long abstinence from food. One of this species, which has now been nine years in the possession of Mr. Owen Holland, of Conway, lived thirty-two years with the gentleman who made him a present of it; but what its age was

when the latter received it from Ireland, is unknown. The same bird also furnishes a proof of the truth of the other remark; having once, through the neglect of servants, endured hunger for twenty-one days, without any sustenance whatever.

Those eagles which are kept tame, are fed with every kind of flesh, whether fresh or corrupting; and when there is a deficiency of that, bread, or any other provision, will suffice. It is very dangerous approaching them if not quite tame; and they sometimes send forth a loud piercing lamentable cry, which renders them still more formidable. The eagle drinks but seldom; and perhaps, when at liberty, not at all, as the blood of his prey serves to quench his thirst. His excrements are always soft and moist, and tinged with that whitish substance which, as was said before, mixes in birds with the urine.

Such are the general characteristics and habitudes of the eagle; however, in some these habitudes differ, as the Sea Eagle and the Osprey live chiefly upon fish, and consequently build their nests on the sea-shore, and by the sides of rivers, on the ground among reeds; and often lay three or four eggs, rather less than those of a hen, of a white elliptical form. They catch their prey, which is chiefly fish, by darting down upon them from above. The Italians compare the violent descent of these birds on their prey, to the fall of lead into water, and call them Aquila Piombina, or the Leaden Eagle.

Nor is the Bald eagle, which is an inhabitant of North Carolina, less remarkable for habits peculiar to itself. These birds breed in that country all

the year round. When the eaglets are just covered with down, and a sort of white woolly feathers, the female eagle lays again. These eggs are left to be hatched by the warmth of the young ones that continue in the nest; so that the flight of one brood makes room for the next, that are but just hatched. These birds fly very heavily; so that they cannot overtake their prey, like others of the same denomination. To remedy this, they often attend a sort of fishing-hawk, which they pursue, and strip the plunderer of its prey. This is the more remarkable, as this hawk flies swifter than they. These eagles also generally attend upon fowlers in the winter; and when any birds are wounded, they are sure to be seized by the eagle, though they may fly from the fowler. This bird will often also steal young pigs, and carry them alive to the nest, which is composed of twigs, sticks and rubbish: it is large enough to fill the body of a cart; and is commonly full of bones half eaten, and putrid flesh, the stench of which is intolerable.

The distinctive marks of each species are as follow.

The *golden eagle*: of a tawny iron-colour: the head and neck of a reddish iron; the tail-feathers of a dirty white, marked with cross bands of tawny iron; the legs covered with tawny iron feathers.

The *common eagle*: of a brown colour: the head and upper part of the neck inclining to red; the tail-feathers white, blackening at the ends; the outer ones on each side, of an ash-colour; the legs covered with feathers of a reddish brown.

The *bald eagle*: brown: the head, neck and tail-

feathers white; the feathers of the upper part of the leg brown.

The *white eagle:* the whole white.

The *rough-footed eagle:* of a dirty brown: spotted under the wings, and on the legs, with white; the feathers of the tail white at the beginning and the point; the leg-feathers dirty brown, spotted with white.

The *white-tailed eagle:* dirty brown: head white; the stems of the feathers black; the rump inclining to black; the tail-feathers the first half black, the end half white; legs naked.

The *erne:* a dirty iron-colour above, an iron mixed with black below; the head and neck ash, mixed with chesnut; the points of the wings blackish; the tail-feathers white; the legs naked.

The *black eagle:* blackish: the head and upper neck mixed with red; the tail-feathers, the first half white, speckled with black; the other half blackish; the leg-feathers dirty white.

The *sea eagle:* inclining to white, mixed with iron brown; belly white, with iron-coloured spots; the covert feathers of the tail whitish; the tail feathers black at the extremity; the upper part of the leg-feathers of an iron brown.

The *osprey:* brown above; white below; the back of the head white; the outward tail-feathers, on the inner side, streaked with white; legs naked.

The *jean le blanc:* above, brownish grey; below, white, spotted with tawny brown; the tail-feathers on the outside and at the extremity, brown; on the inside, white, streaked with brown; legs naked.

The *eagle of Brazil:* blackish brown; ash-colour,

mixed in the wings; tail-feathers white; legs naked.

The *Oroonoko eagle:* with a topping, above, blackish brown; below, white, spotted with black; upper neck yellow; tail-feathers brown, with white circles; leg-feathers white, spotted with black.

The *crowned African eagle:* with a topping; the tail of an ash-colour, streaked on the upper side with black.

The *eagle of Pondicherry:* chesnut-colour: the six outward tail-feathers black one half.

[The *bearded eagle* of the Alps is a bird of vast size, measuring sometimes nearly ten feet from the tip of one wing to the tip of the other: below the throat is a beard-like appendage, consisting of very narrow feathers. The legs are clothed with feathers quite down to the toes. One of these Mr. Bruce observed on the high mountains of Abyssinia.

"This noble bird, says he, was not an object of any chace or pursuit, nor stood in need of any stratagem to bring him within our reach. Upon the highest top of the mountain Lamalmon, while my servants were refreshing themselves from the toilsome rugged ascent, and enjoying the pleasure of a most delightful climate, eating their dinner in the outer air, with several large dishes of boiled goat's-flesh before them, this enemy, as he turned out to be to them, suddenly appeared: he did not stoop rapidly from a height, but came flying slowly along the ground, and sat down close to the meat, within the ring the men had made round it. A great shout, or rather cry of distress, called me to the place. I saw the Eagle stand for a minute, as if to recollect him-

self, while the servants ran for their lances and shields. I walked up as nearly to him as I had time to do. His attention was fully fixed upon the flesh. I saw him put his foot into the pan, where there was a large piece prepared for boiling; but finding the smart, which he had not expected, he withdrew it, and forsook the piece which he held.

There were two large pieces, a leg and a shoulder, lying upon a wooden platter: into these he thrust both his claws and carried them off; but I thought he still looked wistfully at the large piece which remained in the warm-water. Away he went slowly along the ground, as he had come. The face of the clift over which the criminals are thrown, took him from our sight. The Mahometans that drove the asses were much alarmed, and assured me of his return. My servants, on the other hand, very unwillingly expected him, and thought he had already more than his share.

As I had myself a desire of more intimate acquaintance with him, I loaded a rifle gun with ball, and sat down close to the platter by the meat. It was not many minutes before he came, and a prodigious shout was raised by my attendants, "he is coming, he is coming;" enough to have dismayed a more courageous animal. Whether he was not quite so hungry as at his first visit, or suspected something from my appearance, I know not: but he made a small turn, and sat down about ten yards from me; the pan with the meat being between me and him. As the field was clear before me, and I did not know but his next move might bring him opposite to some of my people, so that he might actually get the rest of the meat and make off, I shot him with

the ball through the middle of the body, about two inches below the wing, so that he lay down upon the grass without a single flutter.

Upon laying hold of his monstrous carcase, I was not a little surprised at seeing my hands covered and tinged with a yellow powder or dust. Upon turning him on his belly, and examining the feathers of his back, they also produced a dust, the colour of the feathers there. The dust was not in small quantities; for upon striking the breast, the yellow powder flew, in full greater quantity than from a hair-dresser's powder-puff. The feathers of the belly and breast, which were of a gold colour, did not appear to have any thing extraordinary in their formation; but the large feathers in the shoulders and wings seemed apparently to be fine tubes, which upon pressure scattered this dust upon the finer parts of the feathers; but this was brown, the colour of the feathers of the back. Upon the side of the wing, the ribs or hard part of the feathers seemed to be bare as if worn; or I rather think were renewing themselves, having before failed in their functions.

What is the reason of this extraordinary provision of nature, it is not in my power to determine. As it is an unusual one, it is probably meant for a defence against the climate, in favour of the birds which live in those almost inaccessible heights of a country doomed, even in its lower parts, to several month's excessive rain."]

CHAP. X.

The Condor of America.

WE might now come to speak of the vulture kind, as they hold the next rank to the eagle; but we are interrupted in our method, by the consideration of an enormous bird, whose place is not yet ascertained; as naturalists are in doubt whether to refer it to the eagle tribe, or to that of the vulture. Its great strength, force, and vivacity, might plead for its place among the former; the baldness of its head and neck might be thought to degrade it among the latter. In this uncertainty, it will be enough to describe the bird, by the lights we have, and leave future historians to settle its rank in the feathered creation. Indeed, if size and strength, combined with rapidity of flight and rapacity, deserve pre-eminence, no bird can be put in competition with it.

The Condor possesses, in an higher degree than the eagle, all the qualities that render it formidable, not only to the feathered kind, but to beasts, and even to man himself. Acosta, Garcilasso, and Des Marchais, assert, that it is eighteen feet across, the wings extended. The beak is so strong as to pierce the body of a cow; and two of them are able to devour it. They do not even abstain from man himself; but fortunately there are but few of the species; for if they had been plenty, every order of animals must have carried on an unsuccessful war against them. The Indians assert, that they will

carry off a deer, or a young calf, in their talons, as eagles would an hare or a rabbit; that their sight is piercing, and their air terrible; that they seldom frequent the forests, as they require a large space for the display of their wings; but that they are found on the sea-shore, and the banks of rivers, whither they descend from their heights of the mountains. By later accounts we learn, that they come down to the sea-shore only at certain seasons, when their prey happens to fail them upon land; that they then feed upon dead fish, and such other nutritious substances as the sea throws up on the shore. We are assured, however, that their countenance is not so terrible as the old writers have represented it; but that they appear of a milder nature than either the eagle or the vulture.

Condamine has frequently seen them in several parts of the mountains of Quito, and observed them hovering over a flock of sheep; and he thinks they would, at a certain time, have attempted to carry one off, had they not been scared away by the shepherds. Labat acquaints us, that those who have seen this animal, declare that the body is as large as that of a sheep; and that the flesh is tough, and as disagreeable as carrion. The Spaniards themselves seem to dread its depredations; and there have been many instances of its carrying off their children.

Mr. Strong, the master of a ship, as he was sailing along the coasts of Chili, in the thirty-third degree of south latitude, observed a bird sitting upon a high cliff near the shore, which some of the ship's company shot with a leaden bullet, and killed. They were greatly surprised when they beheld its magnitude; for when the wings were extended, they

measured thirteen feet from one tip to the other. One of the quills was two feet four inches long; and the barrel, or hollow part, was six inches and three quarters, and an inch and an half in circumference.

We have a still more circumstantial account of this amazing bird, by P. Feuillée, the only traveller who has accurately described it: "In the valley of Ilo "in Peru, I discovered a condor, perched on a high "rock before me: I approached within gun-shot, "and fired; but, as my piece was only charged with "swan-shot, the lead was not able sufficiently to "pierce the bird's feathers. I perceived, however, "by its manner of flying, that it was wounded; and "it was with a good deal of difficulty that it flew "to another rock, about five hundred yards distant "on the sea-shore. I therefore charged again with "ball, and hit the bird under the throat, which "made it mine. I accordingly ran up to seize it; "but, even in death, it was terrible, and defended "itself upon its back, with its claws extended "against me, so that I scarcely knew how to lay "hold of it. Had it not been mortally wounded, I "should have found it no easy matter to take it; "but I at last dragged it down from the rock, and "with the assistance of one of the seamen, I carried "it to my tent, to make a coloured drawing.

"The wings of this bird, which I measured very "exactly, were twelve feet three inches (English) "from tip to tip. The great feathers, that were "of a beautiful shining black, were two feet four "inches long. The thickness of the beak was pro-"portionable to the rest of the body; the length "about four inches; the point hooked downwards, "and white at its extremity; and the other part

"was of a jet black. A short down, of a brown "colour, covered the head; the eyes were black, "and surrounded with a circle of reddish brown. "The feathers, on the breast, neck and wings, were "of a light brown; those on the back were rather "darker. Its thighs were covered with brown fea-"thers to the knee. The thigh-bone was ten inches "long; the leg five inches: the toes were three be-"fore, and one behind; that behind was an inch "and an half; and the claw with which it was arm-"ed was black, and three quarters of an inch. The "other claws were in the same proportion; and the "legs were covered with black scales, as also the "toes; but in these the scales were larger.

"These birds usually keep in the mountains, "where they find their prey; they never descend "to the sea-shore, but in the rainy season; for as "they are very sensible of cold, they go there for "greater warmth. Though these mountains are "situated in the torrid zone, the cold is often very "severe; for a great part of the year they are co-"vered with snow, but particularly in winter.

"The little nourishment which these birds find "on the sea-coast, except when the tempest drives "in some great fish, obliges the condor to continue "there but a short time. They usually come to the "coast at the approach of evening; stay there all "night, and fly back in the morning."

It is doubted whether this animal be proper to America only, or whether it may not have been described by the naturalists of other countries. It is supposed, that the great bird called the Rock, described by Arabian writers, and so much exaggerated by fable, is but a species of the condor. The

great bird of Tarnassar, in the East Indies, that is larger than the eagle, as well as the vulture of Senegal, that carries off children, are probably no other than the bird we have been describing. Russia, Lapland, and even Switzerland and Germany, are said to have known this animal. A bird of this kind was shot in France, that weighed eighteen pounds, and was said to be eighteen feet across the wings: however, one of the quills was described only as being larger than that of a swan, so that probably the breadth of the wings may have been exaggerated, since a bird so large would have the quills more than twice as big as those of a swan. However this be, we are not to regret that it is scarcely ever seen in Europe, as it appears to be one of the most formidable enemies of mankind. In the deserts of Pachomac, where it is chiefly seen, men seldom venture to travel. Those wild regions are very sufficient of them selves to inspire a secret horror; broken precipices—prowling panthers—forests only vocal with the hissing of serpents—and mountains rendered still more terrible by the condor, the only bird that ventures to make its residence in those deserted situations.

CHAP. XI.

Of the Vulture, and its Affinities.

THE first rank in the description of birds, has been given to the eagle; not because it is stronger or larger than the vulture, but because it is more generous and bold. The eagle, unless pressed by famine, will not stoop to carrion; and never devours but

what he has earned by his own pursuit. The vulture, on the contrary, is indelicately voracious; and seldom attacks living animals, when it can be supplied with the dead. The eagle meets and singly opposes his enemy; the vulture, if it expects resistance, calls in the aid of its kind, and basely overpowers its prey by a cowardly combination. Putrefaction and stench, instead of deterring, only serves to allure them. The vulture seems among birds what the jackall and hyena are among quadrupeds, who prey upon carcasses, and root up the dead.

Vultures may be easily distinguished from all those of the eagle kind, by the nakedness of their heads and necks, which are without feathers, and only covered with a very slight down, or a few scattered hairs. Their eyes are more prominent; those of the eagle being buried more in the socket. Their claws are shorter and less hooked. The inside of the wing is covered with a thick down, which is different in them from all other birds of prey. Their attitude is not so upright as that of the eagle; and their flight more difficult and heavy.

In this tribe we may range the golden, the ash-coloured, and the brown vulture, which are inhabitants of Europe; the spotted and the black vulture of Egypt; the bearded vulture, the Brasilian vulture, and the king of the vultures, of South America. They all agree in their nature, being equally indolent, yet rapacious and unclean.

The Golden Vulture seems to be the foremost of the kind; and is in many things like the golden eagle, but larger in every proportion. From the end of the beak to that of the tail, it is four feet and an half; and to the claws end, forty-five inches. The

length of the upper mandible is almost seven inches; and the tail twenty-seven in length. The lower part of the neck, breast and belly, are of a red colour; but on the tail it is more faint, and deeper near the head. The feathers are black on the back; and on the wings and tail of a yellowish brown. Others of the kind differ from this in colour and dimensions; but they are all strongly marked by their naked heads, and beak straight in the beginning, but hooking at the point.

They are still more strongly marked by their nature, which, as has been observed, is cruel, unclean, and indolent. Their sense of smelling, however, is amazingly great; and Nature, for this purpose, has given them two large apertures or nostrils without, and an extensive olfactory membrane within. Their intestines are formed differently from those of the eagle kind; for they partake more of the formation of such birds as live upon grain. They have both a crop and a stomach; which may be regarded as a kind of gizzard, from the extreme thickness of the muscles of which it is composed. In fact, they seem adapted inwardly, not only for being carnivorous, but to eat corn or whatsoever of that kind comes in their way.

This bird, which is common in many parts of Europe, and but too well known on the western continent, is totally unknown in England. In Egypt, Arabia, and many other kingdoms of Africa and Asia, vultures are found in great abundance. The inside down of their wing is converted into a very warm and comfortable kind of fur, and is commonly sold in the Asiatic markets.

Indeed, in Egypt, this bird seems to be of singu-

lar service. There are great flocks of them in the neighbourhood of Grand Cairo, which no person is permitted to destroy. The service they render the inhabitants, is the devouring all the carrion and filth of that great city; which might otherwise tend to corrupt and putrefy the air. They are commonly seen in company with the wild dogs of the country, tearing a carcass very deliberately together. This odd association produces no quarrels; the birds and quadrupeds seem to live amicably, and nothing but harmony subsists between them. The wonder is still the greater, as both are extremely rapacious, and both lean and bony to a very great degree; probably having no great plenty even of the wretched food on which they subsist.

In America, they lead a life somewhat similar. Wherever the hunters, who there only pursue beasts for the skins, are found to go, these birds are seen to pursue them. They still keep hovering at a little distance; and when they see the beast flayed and abandoned, they call out to each other, pour down upon the carcass, and, in an instant, pick its bones as bare and clean as if they had been scraped by a knife.

At the Cape of Good Hope, in Africa, they seem to discover a still greater share of dexterity in their methods of carving. "I have," says Kolben, "been "often a spectator of the manner in which they "have anatomised a dead body: I say anatomized, "for no artist in the world could have done it more "cleanly. They have a wonderful method of sepa-"rating the flesh from the bones, and yet leaving the "skin quite entire. Upon coming near the carcass, "one would not suppose it thus deprived of its inter-

" nal substance, till he began to examine it more " closely: he then finds it, literally speaking, no- " thing but skin and bone. Their manner of per " forming the operation, is this: they first make an " opening in the belly of the animal, from whence " they pluck out and greedily devour the entrails; " then entering into the hollow which they have " made, they separate the flesh from the bones, with- " out ever touching the skin. It oftens happens that " an ox returning home alone to its stall from the " plough lies down by the way: it is then if the vul- " tures perceive it, that they fall with fury down, " and inevitably devour the unfortunate animal. " They sometimes attempt them grazing in the " fields; and then, to the number of a hundred or " more, make their attack all at once and together."

" They are attracted by carrion," says Catesby, " from a very great distance. It is pleasant to be- " hold them, when they are thus eating, and dis- " puting for their prey. An eagle generally presides " at these entertainments, and makes them all keep " their distance till he has done. They then fall to " with an excellent appetite: and their sense or " smelling is so exquisite, that the instant a carcass " drops, we may see the vultures floating in the air " from all quarters, and come sousing on their " prey." It is supposed by some, that they eat nothing that has life; but this is only when they are not able; for when they can come at lambs, they shew no mercy; and serpents are their ordinary food. The manner of those birds is to perch themselves, several together, on the old pine and cypress-trees; where they continue all the morning, for several hours, with their wings unfolded: nor are they fear-

ful of danger, but suffer people to approach them very near, particularly when they are eating.

The sloth, the filth, and the voraciousness of these birds, almost exceed credibility. In the Brasils, where they are found in great abundance, when they light upon a carcass, which they have liberty to tear at their ease, they so gorge themselves, that they are unable to fly; but keep hopping along when they are pursued. At all times, they are a bird of slow flight, and unable readily to raise themselves from the ground; but when they have over fed, they are then utterly helpless; but they soon get rid of their burden; for they have a method of vomiting up what they have eaten, and then they fly off with greater facility.

It is pleasant, however, to be a spectator of the hostilities between animals that are thus hateful or noxious. Of all creatures, the two most at enmity, is the vulture of Brasil, and the crocodile. The female of this terrible amphibious creature, which in the rivers of that part of the world grows to the size of twenty-seven feet, lays its eggs, to the number of one or two hundred, in the sands, on the side of the river, where they are hatched by the heat of the climate. For this purpose, she takes every precaution to hide from all other animals the place where she deposits her burthen; in the mean time, a number of vultures, or galinassos, as the Spaniards call them, sit, silent and unseen, in the branches of some neighbouring forest, and view the crocodile's operations, with the pleasing expectation of succeeding plunder. They patiently wait till the crocodile has laid the whole number of her eggs, till she has covered them carefully under the sand, and until she is retired

from them to a convenient distance. Then, all together, encouraging each other with cries, they pour down upon the nest, hook up the sand in a moment, lay the eggs bare, and devour the whole brood without remorse. Wretched as is the flesh of these animals, yet men, perhaps when pressed by hunger, have been tempted to taste it. Nothing can be more lean, stringy, nauseous, and unsavory. It is in vain that, when killed, the rump has been cut off; in vain the body has been washed, and spices used to overpower its prevailing odour; it still smells and tastes of the carrion by which it was nourished, and sends forth a stench that is insupportable.

These birds, at least those of Europe, usually lay two eggs at a time, and produce but once a year. They make their nests in inaccessible cliffs, and in places so remote that it is rare to find them. Those in our part of the world chiefly reside in the places where they breed, and seldom come down into the plains, except when the snow and ice, in their native retreats, has banished all living animals but themselves: they then come from their heights, and brave the perils they must encounter in a more cultivated region. As carrion is not found, at those seasons, in sufficient quantity, or sufficiently remote from man to sustain them, they prey upon rabbits, hares, serpents, and whatever small game they can overtake or overpower.

Such are the manners of this bird in general; but there is one of the kind, called the King of the Vultures, which from its extraordinary figure, deserves a separate description. This bird is a native of America, and not of the East Indies, as those who make a trade of shewing birds would induce us to believe.

This bird is larger than a turkey cock; but is chiefly remakable for the odd formation of the skin of the head and neck, which is bare. This skin arises from the base of the bill, and is of an orange-colour; from whence it stretches on each side to the head: from thence it proceeds, like an indented comb, and falls on either side, according to the motion of the head. The eyes are surrounded by a red skin, of a scarlet colour; and the iris has the colour and lustre of pearl. The head and neck are without feathers, covered with a flesh-coloured skin on the upper part, a fine scarlet behind the head, and a duskier coloured skin before: farther down behind the head arises a little tuft of black down, from whence issues and extends beneath the throat, on each side, a wrinkled skin, of a brownish colour, mixed with blue, and reddish behind: below, upon the naked part of the neck, is a collar formed by soft longish feathers, of a deep ash-colour, which surround the neck, and cover the breast before. Into this collar the bird sometimes withdraws its whole neck and sometimes a part of its head; so that it looks as if it had withdrawn the neck into the body. Those marks are sufficient to distinguish this bird from all others of the vulture kind; and it cannot be doubted, but that it is the most beautiful of all this deformed family: however, neither its habits nor instincts vary from the rest of the tribe; being, like them, a slow cowardly bird, living chiefly upon rats, lizards, and serpents; and upon carrion or excrement, when it happens in the way. The flesh is so bad, that even savages themselves cannot abide it.

CHAP. XII.

Of the Falcon Kind, and its Affinities.

EVERY creature becomes more important in the history of nature in proportion as it is connected with man. In this view, the smallest vegetable, or the most seemingly contemptible insect, is a subject more deserving attention than the most flourishing tree or the most beautiful of the feathered creation. In this view, the falcon is a more important animal than the eagle or the vulture; and though so very diminutive in the comparison, is, notwithstanding, from its connexion with our pleasures, a much more interesting object of curiosity.

The amusement of hawking, indeed, is now pretty much given over in this kingdom; for, as every country refines, as its enclosures become higher and closer, those rural sports must consequently decline, in which the game is to be pursued over a long extent of country, and where, while every thing retards the pursuer below, nothing can stop the object of his pursuit above.

Falconry, that is now so much disused among us, was the principal amusement of our ancestors. A person of rank scarcely stirred out without his hawk on his hand; which in old paintings is the criterion of nobility. Harold, afterwards king of England, when he went on a most important embassy into Normandy, is drawn in an old bas-relief, as embarking with a bird on his fist and a dog under his arm. In those days, it was thought sufficient

for noblemen's sons to wind the horn, and to carry their hawk fair, and leave study and learning to the children of meaner people. Indeed, this diversion was in such high esteem among the great all over Europe, that Frederic, one of the emperors of Germany, thought it not beneath him to write a treatise upon hawking.

The expense which attended this sport was very great: among the old Welch princes, the king's falconer was the fourth officer in the state; but, notwithstanding all his honours, he was forbid to take more than three draughts of beer from his horn lest he should get drunk and neglect his duty. In the reign of James the First, Sir Thomas Monson is said to have given a thousand pounds for a cast of hawks; and such was their value in general, that it was made felony in the reign of Edward the Third to steal a hawk. To take its eggs, even in a person's own ground, was punishable with imprisonment for a year and a day, together with a fine at the king's pleasure. In the reign of Elizabeth, the imprisonment was reduced to three months; but the offender was to lie in prison till he got security for his good behaviour for seven years farther. In the earlier times, the art of gunning was but little practised, and the hawk then was valuable, not only for its affording diversion, but for its procuring delicacies for the table that could seldom be obtained any other way.

Of many of the ancient falcons used for this purpose, we at this time know only the names, as the exact species are so ill described, that one may be very easily mistaken for another. Of those in use at present, both here and in other countries, are the

gyr-falcon, the falcon, the lanner, the sacre, the hobby, the kestril, and the merlin. These are called the long-winged hawks, to distinguish them from the goss-hawk, the sparrow-hawk, the kite, and the buzzard, that are of shorter wing, and either too slow, too cowardly, too indolent, or too obstinate, to be serviceable in contributing to the pleasures of the field.

The generous tribe of hawks, as was said, are distinguished from the rest by the peculiar length of their wings, which reach nearly as low as the tail. In these, the first quill of the wing is nearly as long as the second; it terminates in a point, which begins to diminish from about an inch of its extremity. This sufficiently distinguishes the generous breed from that of the baser race of kites, sparrow-hawks, and buzzards, in whom the tail is longer than the wings, and the first feather of the wing is rounded at the extremity. They differ also in the latter having the fourth feather of the wing the longest; in the generous race it is always the second.

This generous race, which have been taken into the service of man, are endowed with natural powers that the other kinds are not possessed of. From the length of their wings, they are swifter to pursue their game; from a confidence in this swiftness, they are bolder to attack it; and, from an innate generosity, they have an attachment to their feeder, and consequently a docility which the baser birds are strangers to.

The gyr-falcon leads in this bold train. He exceeds all other falcons in the largeness of his size, for he approaches nearly to the magnitude of the

eagle. The top of the head is flat and of an ash-colour, with as trong, thick, short, and blue beak. The feathers of the back and wings are marked with black spots, in the shape of an heart; he is a courageous and fierce bird, nor fears even the eagle himself; but he chiefly flies at the stork, the heron, and the crane. He is mostly found in the colder regions of the north, but loses neither his strength nor his courage when brought into the milder climates.

The falcon, properly so called, is the second in magnitude and fame. There are some varieties in this bird; but there seem to be only two that claim distinction; the falcon-gentil and the peregrine-falcon; both are much less than the gyr, and somewhat about the size of a raven. They differ but slightly, and perhaps only from the different states they were in when brought into captivity. Those differences are easier known by experience than taught by description. The falcon-gentil moults in March, and often sooner; the peregrine-falcon does not moult till the middle of August. The peregrine is stronger in the shoulder, has a larger eye, and yet more sunk in the head; his beak is stronger, his legs longer, and the toes better divided.

Next in size to these is the lanner, a bird now very little known in Europe; then follows the sacre, the legs of which are of a bluish colour, and serve to distinguish that bird; to them succeeds the hobby, used for smaller game, for daring larks, and stooping at quails. The kestril was trained for the same purposes; and lastly the merlin; which, though the smallest of all the hawk or falcon kind, and not much larger than a thrush, yet displays a degree of

courage that renders him formidable even to birds ten times his size. He has often been known to kill a partridge or a quail at a single pounce from above.

Some of the other species of sluggish birds were now and then trained to this sport, but it was when no better could be obtained; but these just described were only considered as birds of the nobler races. Their courage in general was such, that no bird, not very much above their own size, could terrify them; their swiftness so great, that scarcely any bird could escape them; and their docility so remarkable, that they obeyed not only the commands, but the signs of their master. They remained quietly perched upon his hand till their game was flushed, or else kept hovering round his head without ever leaving him but when he gave permission. The common falcon is a bird of such spirit, that, like a conqueror in a country, he keeps all birds in awe and in subjection to his prowess. Where he is seen flying wild, as I often had an opportunity of observing, the birds of every kind, that semed entirely to disregard the kite or the sparrow-hawk, fly with screams at his most distant appearance. Long before I could see the falcon, I have seen them with the utmost signs of terror endeavouring to avoid him; and, like the peasants of a country before a victorious army, every one of them attempting to shift for himself. Even the young falcons, though their spirit be depressed by captivity, will, when brought out into the field, venture to fly at barnacles and wild geese, till, being soundly brushed and beaten by those strong birds, they learn

their error, and desist from meddling with such unwieldy game for the future.

To train up the hawk to this kind of obedience, so as to hunt for his master, and bring him the game he shall kill, requires no small degree of skill and assiduity. Numberless treatises have been written upon this subject, which are now, with the sport itself, almost utterly forgotten: indeed, except to a few, they seem utterly unintelligible; for the falconers had a language peculiar to themselves, in which they conversed and wrote, and took a kind of professional pride in using no other. A modern reader, I suppose, would be little edified by one of the instructions, for instance, which we find in Willughby, when he bids us *draw our falcon out of the mew twenty days before we enseam her. If she truss and carry, the remedy is, to cosse her talons, her powse, and petty single.*

But, as it certainly makes a part of natural history to shew how much the nature of birds can be wrought upon by harsh or kind treatment, I will just take leave to give a short account of the manner of training an hawk, divested of those cant words with which men of art have thought proper to obscure their profession.

In order to train up a falcon, the master begins by clapping straps upon his legs, which are called jesses, to which there is fastened a ring with the owner's name, by which, in case he should be lost, the finder may know where to bring him back. To these also are added little bells, which serve to mark the place where he is, if lost in the chase. He is always carried on the fist, and is obliged to keep

without sleeping. If he be stubborn, and attempts to bite, his head is plunged into water. Thus by hunger, watching, and fatigue, he is constrained to submit to having his head covered by a hood or cowl, which covers his eyes. This troublesome employment continues often for three days and nights without ceasing. It rarely happens but at the end of this his necessities, and the privation of light, make him lose all idea of liberty, and bring down his natural wildness. His master judges of his being tamed when he permits his head to be covered without resistance, and when uncovered, he seizes the meat before him contentedly. The repetition of these lessons by degrees ensures success. His wants being the chief principle of his dependance, it is endeavoured to increase his appetite by giving him little balls of flannel, which he greedily swallows. Having thus excited the appetite, care is taken to satisfy it; and thus gratitude attaches the bird to the man who but just before had been his tormentor.

When the first lessons have succeeded, and the bird shews signs of docility, he is carried out upon some green, the head is uncovered, and, by flattering him with food at different times, he is taught to jump on the fist, and to continue there. When confirmed in this habit, it is then thought time to make him acquainted with the lure. This lure is only a thing stuffed like the bird the falcon is designed to pursue, such as an heron, a pigeon, or a quail, and on this lure they always take care to give him his food. It is quite necessary that the bird should not only be acquainted with this, but fond of it, and delicate in his food when shewn it. When the falcon has flown upon this, and tasted the first morsel,

some falconers then take it away; but by this there is a danger of daunting the bird; and the surest method is, when he flies to seize it, to let him feed at large, and this serves as a recompence for his docility. The use of this lure is to flatter him back when he has flown in the air, which it sometimes fails to do; and it is always requisite to assist it by the voice and the signs of the master. When these lessons have been long repeated, it is then necessary to study the character of the bird; to speak frequently to him if he be inattentive to the voice; to stint in his food such as do not come kindly or readily to the lure; to keep waking him if he be not sufficiently familiar; and to cover him frequently with the hood if he fears darkness. When the familiarity and the docility of the bird are sufficiently confirmed on the green, he is then carried into the open fields, but still kept fast by a string which is about twenty yards long. He is then uncovered, as before; and the falconer calling him at some paces distance, shews him the lure. When he flies upon it he is permitted to take a large morsel of the food which is tied to it. The next day the lure is shewn him at a greater distance, till he comes at last to fly to it at the utmost length of his string. He is then to be shewn the game itself alive, but disabled or tame, which he is designed to pursue. After having seized this several times with his string, he is then left entirely at liberty, and carried into the field for the purpose of pursuing that which is wild. At that he flies with avidity; and when he has seized it, or killed it, he is brought back by the voice and the lure.

By this method of instruction, an hawk may be

taught to fly at any game whatsoever; but falconers have chiefly confined their pursuit only to such animals as yield them profit by the capture, or pleasure in the pursuit. The hare, the partridge, and the quail, repay the trouble of taking them; but the most delightful sport is the falcon's pursuit of the heron, the kite, or the wood-lark. Instead of flying directly forward, as some other birds do, these, when they see themselves threatened by the approach of the hawk, immediately take to the skies. They fly almost perpendicularly upward, while their ardent pursuer keeps pace with their flight, and tries to rise above them. Thus both diminish by degrees from the gazing spectator below; till they are quite lost in the clouds; but they are soon seen descending, struggling together, and using every effort on both sides; the one of rapacious insult, the other of desperate defence. The unequal combat is soon at an end; the falcon comes off victorious, and the other, killed or disabled, is made a prey either to the bird or the sportsman.

As for other birds, they are not so much pursued, as they generally fly straight forward, by which the sportsman loses sight of the chase, and what is still worse, runs a chance of losing his falcon also. The pursuit of the lark by a couple of merlins is considered, to him only who regards the sagacity of the chace, as one of the most delightful spectacles this exercise can afford. The amusement is, to see one of the merlins climbing to get the ascendant of the lark, while the other, lying low for the best advantage, waits the success of its companion's efforts; thus while the one stoops to strike its prey, the other seizes it at its coming down.

Such are the natural and acquired habits of these birds, which of all others have the greatest strength and courage relative to their size. While the kite or the goss-hawk approach their prey side-ways, these dart perpendicularly, in their wild state, upon their game, and devour it on the spot, or carry it off, if not too large for their power of flying. They are sometimes seen descending perpendicularly from the clouds, from an amazing height, and darting down n their prey with inevitable swiftness and destruction.

The more ignoble race of birds make up by cunning and assiduity what these claim by force and celerity. Being less courageous, they are more patient; and, having less swiftness, they are better skilled at taking their prey by surprize. The kite, that may be distinguished from all the rest of this tribe by his forky tail and his slow floating motion, seems almost for ever upon the wing. He appears to rest himself upon the bosom of the air, and not to make the smallest effort in flying. He lives only upon accidental carnage, as almost every bird in the air is able to make good his retreat against him. He may be therefore considered as an insidious thief who only prowls about, and, when he finds a small bird wounded, or a young chicken strayed too far from the mother, instantly seizes the hour of calamity, and, like a famished glutton, is sure to shew no mercy. His hunger, indeed, often urges him to acts of seeming desperation. I have seen one of them fly round and round for a while to mark a clutch of chickens, and then on a sudden dart like lightning upon the unresisting little animal, and carry it off, the hen in vain crying out, and the boys hooting and

casting stones to scare it from its plunder. For this reason, of all birds the kite is the good housewife's greatest tormentor and aversion.

Of all obscene birds, the kite is the best known; but the buzzard among us is the most plenty. He is a sluggish inactive bird, and often remains perched whole days together upon the same bough. He is rather an assassin than a pursuer; and lives more upon frogs, mice, and insects, which he can easily seize, than upon birds which he is obliged to follow. He lives in summer by robbing the nests of other birds, and sucking their eggs, and more resembles the owl kind in his countenance than any other rapacious bird of day. His figure implies the stupidity of his disposition; and so little is he capable of instruction from man, that it is common to a proverb to call one who cannot be taught, or continues obstinately ignorant, a buzzard. The honey-buzzard, the moor-buzzard, and the hen-harrier, are all of this stupid tribe, and differ chiefly in their size, growing less in the order I have named them. The goss-hawk and sparrow-hawk are what Mr. Willughby calls short-winged birds, and consequently unfit for training, however injurious they may be to the pigeon-house or the sportsman. They have been indeed taught to fly at game; but little is to be obtained from their efforts, being difficult of instruction, and capricious in their obedience. It has been lately asserted, however, by one whose authority is respectable, that the sparrow-hawk is the boldest and the best of all others for the pleasure of the chace.

[The Secretary Falcon, an inhabitant of Asia and Africa, is a curious bird, for whose Natural History

we are chiefly indebted to the indefatigable labours of M. le Vaillant. Its body, when standing erect, is not much unlike the crane; but its head, bill, and claws, are precisely those of the falcon. The general colour of the plumage is a bluish-ash; the tips of the wings, the thighs, and the vent being blackish: the tail is black near the end, but the very tip is white: the legs are long, so that it measures when standing erect, full three feet from the top of the head to the ground. On the back of the head are several long dark coloured feathers, hanging down behind, and which it can erect at pleasure. This crest has induced the Dutch at the Cape to give it the name of the Secretary, from the resemblance they fancy it has to the pen of a writer, when in the time of leisure it is stuck behind the ear. It is also, by the Hottentots, denominated the serpent-eater, from the alacrity and expedition with which it devours those reptiles.

According to Dr. Sparmann, the mode in which it seizes and dispatches its prey is highly curious. When it approaches a serpent for the purpose of attacking it, it is always careful to carry the point of one of the wings forward; for the purpose of parrying off the venemous bite of the enemy: and occasionally it finds an opportunity of spurring and treading on its antagonist; or else of taking him on his pinions, and throwing him up into the air. When by these repeated attacks it has wearied out its adversary, and rendered him almost lifeless, it kills and then swallows him without danger.

M. le Vaillant was witness to an engagement between this bird and a serpent, which was conducted with much obstinacy and address. The serpent feeling

its inferiority in the event, endeavoured with all the cunning of its tribe to regain its hole; which the bird as often prevented, by placing itself before him by a single leap, and thus cutting off its retreat. Despairing, at length, it made one effort, by erecting itself, hissing dreadfully, and displaying in a menacing manner its wide throat, inflamed eyes, and swollen head. "Sometimes this threatening appearance produced a momentary suspension of hostilities; but the bird soon returned to the charge, and covering her body with one of her wings, as with a buckler, struck her enemy with the long protuberances of the other. I saw him at last stagger and fall: the conqueror then fell upon him to dispatch him, and with one stroke of her bill laid open his skull."

In the craw of this bird, M. le Vaillant found eleven tolerably large lizards, three serpents as long as his arm, eleven small tortoises of about two inches in diameter, and a number of locusts and other insects, some of which were so entire that he added them to his collection. Besides this there was found a ball, formed of the back-bones of serpents and lizards, shells of tortoises, and the harder parts of insects: this ball was nearly as large as a goose's egg, and would doubtless have been cast up, when of a sufficient size, in the manner of other birds of prey.

It is easily domesticated, and will then eat any kind of food, either raw or dressed. It makes its nest of twigs, in some very high tree, and usually lays two or three white eggs, nearly as large as those of a goose. The young brood remain long in the nest, on account of their long and slender legs.]

CHAP. XIII.

The Butcher-Bird.

BEFORE I conclude this short history of rapacious birds that prey by day, I must take leave to describe a tribe of smaller birds, that seem from their size rather to be classed with the harmless order of the sparrow-kind; but that from their crooked beak, courage, and appetites for slaughter, certainly deserve a place here. The lesser Butcher-Bird is not much above the size of a lark; that of the smallest species is not so big as a sparrow; yet, diminutive as these little animals are, they make themselves formidable to birds of four times their dimensions.

The greater Butcher-Bird is about as large as a thrush; its bill is black, an inch long, and hooked at the end. This mark, together with its carnivorous appetites, ranks it among the rapacious birds; at the same time that its legs and feet, which are slender, and its toes, formed somewhat differently from the former, would seem to make it the shade between such birds as live wholly upon flesh, and such as live chiefly upon insects and grain.

Indeed, its habits seem entirely to correspond with its conformation, as it is found to live as well upon flesh as upon insects, and thus to partake in some measure of a double nature. However, its appetite for flesh is the most prevalent; and it never takes up with the former when it can obtain the latter. This bird, therefore, leads a life of conti-

-nual combat and opposition. As from its size it does not much terrify the smaller birds of the forest, so it very frequently meets birds willing to try its strength, and it never declines the engagement.

It is wonderful to see with what intrepidity this little creature goes to war with the pie, the crow, and the kestril, all above four times bigger than itself, and that sometimes prey upon flesh in the same manner. It not only fights upon the defensive, but often comes to the attack, and always with advantage, particularly when the male and female unite to protect their young, and to drive away the more powerful birds of rapine. At that season they do not wait the approach of their invader; it is sufficient that they see him preparing for the assault at a distance. It is then that they sally forth with loud cries, wound him on every side, and drive him off with such fury, that he seldom ventures to return to the charge. In these kinds of disputes, they generally come off with the victory; though it sometimes happens that they fall to the ground with the bird they have so fiercely fixed upon, and the combat ends with the destruction of the assailant as well as the defender.

For this reason, the most redoubtable birds of prey respect them; while the kite, the buzzard, and the crow, seem rather to fear than seek the engagement. Nothing in nature better displays the respect paid to the claims of courage, than to see this little bird, apparently so contemptible, fly in company with the lanner, the falcon, and all the tyrants of the air, without fearing their power, or avoiding their resentment.

As for small birds, they are its usual food. It seizes them by the throat, and strangles them in an instant. When it has thus killed the bird or insect, it is asserted by the best authority, that it fixes them upon some neighbouring thorn, and when thus spitted, pulls them to pieces with its bill. It is supposed that as Nature has not given this bird strength sufficient to tear its prey to pieces with its feet, as the hawks do, it is obliged to have recourse to this extraordinary expedient.

During summer, such of them as constantly reside here, for the smaller red butcher-bird migrates, remain among the mountanious parts of the country; but in winter they descend into the plains, and nearer human habitations. The larger kind make their nests on the highest trees, while the lesser build in bushes in the fields and hedge-rows. They both lay about six eggs, of a white colour, but encircled at the bigger end with a ring of brownish red. The nest on the outside is composed of white moss interwoven with long grass; within, it is well lined with wool, and is usually fixed among the forking branches of a tree. The female feeds her young with caterpillars and other insects while very young; but soon after accustoms them to flesh, which the male procures with surprising industry. Their nature also is very different from other birds of prey in their parental care; for, so far from driving out their young from the nest to shift for themselves, they keep them with care; and even when adult they do not forsake them, but the whole brood live in one family together. Each family lives apart, and is generally composed of the male, female, and five or six young ones;

these all maintain peace and subordination among each other, and hunt in concert. Upon the returning season of courtship this union is at an end, the family parts for ever, each to establish a little household of its own. It is easy to distinguish these birds at a distance, not only from their going in companies, but also from their manner of flying, which is always up and down, seldom direct or side-ways.

Of these birds there are three or four different kinds; but the greater ash-coloured butcher-bird is the least known among us. The red-backed butcher-bird migrates in autumn and does not return till spring. The woodchat resembles the former, except in the colour of the back, which is brown, and not red as in the other. There is still another, less than either of the former, found in the marshes near London. This too is a bird of prey, although not much bigger than a tit-mouse; an evident proof that an animal's courage or rapacity does not depend upon its size. Of foreign birds of this kind there are several; but as we know little of their manner of living, we will not, instead of history, substitute mere description. In fact, the colours of a bird, which is all we know of them, would afford a reader but small entertainment in the enumeration. Nothing can be more easy than to fill volumes with the different shades of a bird's plumage; but these accounts are written with more pleasure than they are read; and a single glance of a good plate or a picture imprints a juster idea than a volume could convey.*

* [The great Butcher-bird of America makes use of a curious stratagem to decoy and seize its prey. A gentleman accidentally observing that several grasshoppers were stuck upon some sharp

CHAP. XIV

Of Rapacious Birds of the Owl kind, that prey by Night.

HITHERTO we have been describing a tribe of animals who, though plunderers among their fellows of the air, yet wage war boldly in the face of day. We now come to a race equally cruel and rapacious; but who add to their savage disposition, the further reproach of treachery, and carry on all their depredations by night.

All birds of the owl kind may be considered as nocturnal robbers, who, unfitted for taking their prey while it is light, surprise it at those hours of rest when the tribes of Nature are in the least expectation of an enemy. Thus there seems no link in Nature's chain broken; no where a dead inactive repose; but every place, every season, every hour of the day and night, is bustling with life, and furnishing instances of industry, self-defence, and invasion.

All birds of the owl kind have one common mark by which they are distinguished from others; their eyes are formed for seeing better in the dusk, than in the broad glare of sun-shine. As in the eyes of

thorns, enquired of a person who lived close by, the cause of this appearance; and was informed, that they were placed there by this bird, which is there called the nine-killer, from the supposition that nine are always stuck up in succession. On further enquiry, he was led to suppose, that this was an instinctive stratagem, adopted for the purpose of tempting the smaller birds into a situation where he could easily dart out upon them and seize them.]

tigers and cats, that are formed for a life of nocturnal depredation, there is a quality in the retina, that takes in the rays of light so copiously as to permit their seeing in places almost quite dark; so in these birds there is the same conformation of that organ, and though, like us, they cannot see in a total exclusion of light, yet they are sufficiently quick-sighted, at times when we remain in total obscurity. In the eyes of all animals Nature hath made a complete provision, either to shut out too much light, or to admit a sufficiency, by the contraction and dilatation of the pupil. In these birds the pupil is capable of opening very wide, or shutting very close: by contracting the pupil, the brighter light of the day, which would act too powerfully upon the sensibility of the retina, is excluded; by dilating the pupil, the animal takes in the more faint rays of the night, and thereby is enabled to spy its prey, and catch it with greater facility in the dark. Beside this, there is an irradiation on the back of the eye, and the very iris itself has a faculty of reflecting the rays of light, so as to assist vision in the gloomy places where these birds are found to frequent.

But though owls are dazzled by too bright a daylight, yet they do not see best in the darkest nights, as some have been apt to imagine. It is in the dusk of the evening, or the grey of the morning, that they are best fitted for seeing; at those seasons when there is neither too much light, nor too little. It is then that they issue from their retreats, to hunt or to surprise their prey, which is usually attended with great success: it is then that they find all other birds asleep, or preparing for repose, and they have only to seize the most unguarded.

The nights when the moon shines are the times of their most successful plunder; for when it is wholly dark, they are less qualified for seeing and pursuing their prey; except, therefore, by moonlight, they contract the hours of their chace; and if they come out at the approach of dusk in the evening, they return before it is totally dark, and then rise by twilight the next morning, to pursue their game, and to return, in like manner, before the broad daylight begins to dazzle them with its splendour.

Yet the faculty of seeing in the night, or of being entirely dazzled by day, is not alike in every species of these nocturnal birds: some see by night better than others; and some are so little dazzled by daylight, that they perceive their enemies and avoid them. The common white or barn owl, for instance, sees with such exquisite acuteness in the dark, that though the barn has been shut at night, and the light thus totally excluded, yet it perceives the smallest mouse that peeps from its hole: on the contrary, the brown horn owl is often seen to prowl along the hedges by day, like the sparrow-hawk; and sometimes with good success.

All birds of the owl kind may be divided into two sorts; those that have horns, and those without. These horns are nothing more than two or three feathers that stand up on each side of the head over the ear, and give this animal a kind of horned appearance. Of the horned kind is, the great horned owl, which at first view appears as large as an eagle. When he comes to be observed more closely, however, he will be found much less. His legs, body, wings and tail, are shorter; his head much larger and thicker: his horns are composed of feathers,

that rise above two inches and an half high, and which he can erect or depress at pleasure: his eyes are large and transparent, encircled with an orange-coloured iris: his ears are large and deep, and it would appear that no animal was possessed with a more exquisite sense of hearing; his plumage is of a reddish brown, marked on the back with black and yellow spots, and yellow only upon the belly.

Next to this is the common horned owl, of a much smaller size than the former, and with horns much shorter. As the great owl was five feet from the tip of one wing to the other, this is but three. The horns are but about an inch long, and consist of six feathers, variegated with black and yellow.

There is still a smaller kind of the horned owl, which is not much larger than a black-bird; and whose horns are remarkably short, being composed but of one feather, and that not above half an inch high.

To these succeeds the tribe without horns. The owlet, which is the largest of this kind, with dusky plumes, and black eyes; the screech-owl, of a smaller size, with blue eyes; and plumage of an iron grey; the white owl, about as large as the former, with yellow eyes and whitish plumage; the great brown owl, less than the former, with brown plumage and a brown beak; and lastly, the little brown owl, with yellowish-coloured eyes, and an orange-coloured bill. To this catalogue might be added others of foreign denominations, which differ but little from our own, if we except the harfang, or Great Hudson's Bay owl of Edwards, which is the largest of all the nocturnal tribe, and

as white as the snows of the country of which he is a native.

All this tribe of animals, however they may differ in their size and plumage, agree in their general characteristics of preying by night, and having their eyes formed for nocturnal vision. Their bodies are strong and muscular; their feet and claws made for tearing their prey; and their stomachs for digesting it. It must be remarked however that the digestion of all birds that live upon mice, lizards, or such like food, is not very perfect; for though they swallow them whole, yet they are always seen some time after to disgorge the skin and bones, rolled up in a pellet, as being indigestible.

In proportion as each of these animals bears the day-light best, he sets forward earlier in the evening in pursuit of his prey. The great horned owl is the foremost in leaving his retreat; and ventures into the woods and thickets very soon in the evening. The horned, and the brown owl, are later in their excursions; but the barn owl seems to see best in profound darkness; and seldom leaves his hiding-place till midnight.

As they are incapable of supporting the light of the day, or at least of then seeing and readily avoiding their danger, they keep all this time concealed in some obscure retreat, suited to their gloomy appetites, and there continue in solitude and silence. The cavern of a rock, the darkest part of an hollow tree, the battlements of a ruined and unfrequented castle, some obscure hole in a farmer's out-house, are the places where they are usually found: if they be seen out of these retreats in the day-time, they may be considered as having lost

their way; as having by some accident been thrown into the midst of their enemies, and surrounded with danger.

Having spent the day in their retreat, at the approach of evening they sally forth, and skim rapidly up and down along the hedges. The barn-owl indeed, who lives chiefly upon mice, is contented to be more stationary: he takes his residence upon some shock of corn, or the point of some old house; and there watches in the dark, with the utmost perspicacity and perseverance.

Nor are these birds by any means silent; they all have an hideous note; which, while pursuing their prey, is seldom heard; but may be considered rather as a call to courtship. There is something always terrifying in this call, which is often heard in the silence of midnight, and breaks the general pause with an horrid variation. It is different in all; but in each it is alarming and disagreeable. Father Kircher, who has set the voices of birds to music, has given all the tones of the owl note, which makes a most tremendous melody. Indeed, the prejudices of mankind are united with their sensations to make the cry of the owl disagreeable. The screech-owl's voice was always considered among the people, as a presage of some sad calamity that was soon to ensue.

They seldom, however, are heard while they are preying; that important pursuit is always attended with silence, as it is by no means their intention to disturb or forewarn those little animals they wish to surprise. When their pursuit has been successful, they soon return to their solitude, or to their young, if that be the season. If, however, they find but little game, they continue their quest still longer;

and it sometimes happens that, obeying the dictates of appetite rather than of prudence, they pursue so long that broad day breaks in upon them, and leaves them dazzled, bewildered, and at a distance from home.

In this distress they are obliged to take shelter in the first tree or hedge that offers, there to continue concealed all day, till the returning darkness once more supplies them with a better plan of the country. But it too often happens that, with all their precaution to conceal themselves, they are spied out by the other birds of the place, and are sure to receive no mercy. The black-bird, the thrush, the jay, the bunting, and the red-breast, all come in file, and employ their little arts of insult and abuse. The smallest, the feeblest, and the most contemptible of this unfortunate bird's enemies, are then the foremost to injure and torment him. They increase their cries and turbulence round him, flap him with their wings, and are ready to shew their courage to be great, as they are sensible that their danger is but small. The unfortunate owl, not knowing where to attack or where to fly, patiently sits and suffers all their insults. Astonished and dizzy, he only replies to their mockeries by aukward and ridiculous gestures, by turning his head, and rolling his eyes with an air of stupidity. It is enough that an owl appears by day to set the whole grove into a kind of uproar. Either the aversion all the small birds have to this animal, or the consciousness of their own security, makes them pursue him without ceasing, while they encourage each other by their mutual cries to lend assistance in this laudable undertaking.

It sometimes happens, however, that the little birds pursue their insults with the same imprudent zeal with which the owl himself had pursued his depredations. They hunt him the whole day until evening returns; which restoring him his faculties of sight once more, he makes the foremost of his pursuers pay dear for their former sport: nor is man always an unconcerned spectator here. The bird-catchers have got an art of counterfeiting the cry of the owl exactly; and, having before limed the branches of an hedge, they sit unseen and give the call. At this, all the little birds flock to the place where they expect to find their well-known enemy; but instead of finding their stupid antagonist, they are stuck fast to the hedge themselves. This sport must be put in practice an hour before night-fall, in order to be successful; for if it is put off till later, those birds which but a few minutes sooner came to provoke their enemy, will then fly from him with as much terror as they just before shewed insolence.

It is not unpleasant to see one stupid bird made in some sort a decoy to deceive another. The great horned owl is sometimes made use of for this purpose to lure the kite, when falconers desire to catch him for the purposes of training the falcon. Upon this occasion they clap the tail of a fox to the great owl, to render his figure extraordinary; in which trim he sails slowly along, flying low, which is his usual manner. The kite, either curious to observe this odd kind of animal, or perhaps inquisitive to see whether it may not be proper for food, flies after, and comes nearer and nearer. In this manner he continues to hover, and sometimes to descend, till the falconer setting a strong-winged hawk against him,

seizes him for the purpose of training his young ones at home.

The usual place where the great horned owl breeds is in the cavern of a rock, the hollow of a tree, or the turret of some ruined castle. Its nest is near three feet in diameter, and composed of sticks, bound together by the fibrous roots of trees, and lined with leaves on the inside. It lays about three eggs, which are larger than those of a hen, and of a colour somewhat resembling the bird itself. The young ones are very voracious, and the parents not less expert at satisfying the call of hunger. The lesser owl of this kind never makes a nest for itself, but always takes up with the old nest of some other bird, which it has often been forced to abandon. It lays four or five eggs; and the young are all white at first, but change colour in about a fortnight. The other owls in general build near the place where they chiefly prey; that which feeds upon birds in some neighbouring grove; that which preys chiefly upon mice near some farmer's yard, where the proprietor of the place takes care to give it perfect security. In fact, whatever mischief one species of owl may do in the woods, the barn-owl makes a sufficient recompence for, by being equally active in destroying mice nearer home; so that a single owl is said to be more serviceable than half a dozen cats in ridding the barn of its domestic vermin. "In the year 1580," says an old writer, "at Hallontide, an army of mice so "over-run the marshes near Southminster, that they "eat up the grass to the very roots. But at length "a great number of strange painted owls came and "devoured all the mice. The like happened again "in Essex about sixty years after."

To conclude our account of these birds, they are all very shy of man, and extremely indocile and difficult to be tamed. The white owl in particular, as M. Buffon asserts, cannot be made to live in captivity; I suppose he means if it be taken when old. "They live," says he, "ten or twelve days in the "aviary where they are shut up; but they refuse "all kind of nourishment, and at last die of hun- "ger. By day they remain without moving up- "on the floor of the aviary; in the evening, they "mount on the highest perch, where they continue "to make a noise like a man snoring with his mouth "open. This seems designed as a call for their old "companions without; and, in fact, I have seen "several others come to the call, and perch upon "the roof of the aviary, where they made the "same kind of hissing, and soon after permitted "themselves to be taken in a net".*

* [Mr. Constedt, in the transactions of the philosophical society of Stockholm gives a pleasing instance of their attachment to the young. A young owl having quitted the nest, in the month of July, was caught by his servants, and shut up in a large hen-coop. The next morning a young partridge was found lying dead before the door of the coop. For fourteen successive nights the same circumstance was repeated, plainly proving that it had been brought there by the old owls as a provision for the young one. Till the month of August, various articles of food, as young partridges, moor-fowl, pieces of lamb, and other substances, were regularly brought; after which time the parents discontinued their attendance.]

OF

BIRDS

OF THE

POULTRY KIND.

PART II.

CHAP. I.

Of Birds of the Poultry Kind.

FROM the most rapacious and noxious tribe of birds we make a transition to those which of all others are the most harmless and the most serviceable to man. He may force the rapacious tribes to assist his pleasures in the field, or induce the smaller warblers to delight him with their singing; but it is from the poultry kind that he derives the most solid advantages, as they not only make a considerable addition to the necessaries of life, but furnish out the greatest delicacies to every entertainment.

Almost, if not all, the domestic birds of the poultry kind that we maintain in our yards are of foreign extraction; but there are others to be ranked in this class that are as yet in a state of nature; and perhaps only wait till they become sufficiently scarce to be taken under the care of man, to multiply their propagation. It will appear remarkable enough, if we consider how much the tame poultry which we have imported from distant climates has increased, and how much those wild birds of the poultry kind that have never yet been taken into keeping have been diminished and destroyed. They are all thinned; and many of the species, especially in the more cultivated and populous parts of the kingdom, are utterly unseen.

Under birds of the poultry kind I rank all those that have white flesh, and, comparatively to their head and limbs, have bulky bodies. They are furnished with short strong bills for picking up grain,

which is their chief and often their only sustenance. Their wings are short and concave; for which reason they are not able to fly far. They lay a great many eggs; and, as they lead their young abroad the very day they are hatched, in quest of food, which they are shewn by the mother, and which they pick up for themselves, they generally make their nests on the ground. The toes of all these are united by a membrane as far as the first articulation, and then are divided as in those of the former class.

Under this class we may therefore rank the common cock, the peacock, the turkey, the pintada or Guinea-hen, the pheasant, the bustard, the grous, the partridge, and the quail. These all bear a strong similitude to each other, being equally granivorous, fleshy, and delicate to the palate. These are among birds what beasts of pasture are among quadrupeds, peaceable tenants of the field, and shunning the thicker part of the forest, that abounds with numerous animals who carry on unceasing hostilities against them.

As Nature has formed the rapacious class for war, so she seems equally to have fitted these for peace, rest, and society. Their wings are but short, so that they are ill-formed for wandering from one region to another; their bills are also short, and incapable of annoying their opposers: their legs are strong indeed; but their toes are made for scratching up their food, and not for holding or tearing it. These are sufficient indications of their harmless nature; while their bodies, which are fat and fleshy, render them unwieldy travellers, and incapable of straying far from each other.

Accordingly we find them chiefly in society; they

live together; and though they may have their disputes, like all other animals, upon some occasions; yet, when kept in the same district, or fed in the same yard, they learn the arts of subordination; and, in proportion as each knows his strength, he seldom tries a second time the combat where he has once been worsted.

In this manner, all of this kind seem to lead an indolent voluptuous life: as they are furnished internally with a very strong stomach, commonly called a gizzard, so their voraciousness scarcely knows any bounds. If kept in close captivity, and separated from all their former companions, they still have the pleasure of eating left; and they soon grow fat and unwieldy in their prison. To say this more simply, many of the wilder species of birds, when cooped or caged, pine away, grow gloomy, and some refuse all sustenance whatever; none, except those of the poultry kind; grow fat, who seem to lose all remembrance of their former liberty, satisfied with indolence and plenty.

The poultry kind may be considered as sensual epicures, solely governed by their appetites. The indulgence of these seems to influence their other habits, and destroys among them that connubial fidelity for which most other kinds are remarkable. The eagle and the falcon, how fierce soever to other animals, are yet gentle and true to each other; their connexions when once formed continue till death; and the male and female in every exigence and every duty lend faithful assistance to each other. They assist each other in the production of their young, in providing for them when produced; and even then, though they drive them forth to fight their own bat-

tles, yet the old ones still retain their former affection to each other, and seldom part far asunder.

But it is very different with this luxurious class I am now describing. Their courtship is but short, and their congress fortuitous. The male takes no heed of his offspring; and, satisfied with the pleasure of getting, leaves to the female all the care of providing for posterity. Wild and irregular in his appetites, he ranges from one to another; and claims every female which he is strong enough to keep from his fellows. Though timorous when opposed to birds of prey, yet he is incredibly bold among those of his own kind; and but to see a male of his own species is sufficient to produce a combat. As his desires extend to all, every creature becomes his enemy that pretends to be his rival.

The female, equally without fidelity or attachment, yields to the most powerful. She stands by, a quiet meretricious spectator of their fury, ready to reward the conqueror with every compliance. She takes upon herself all the labour of hatching and bringing up her young, and chuses a place for hatching as remote as possible from the cock. Indeed, she gives herself very little trouble in making a nest, as her young ones are to forsake it the instant they part from the shell.

She is equally unassisted in providing for her young, that are not fed with meat put into their mouths, as in other classes of the feathered kind, but peck their food, and, forsaking their nests, run here and there, following the parent wherever it is to be found. She leads them forward where they are likely to have the greatest quantity of grain, and

takes care to shew by pecking, the sort proper for them to seek for. Though at other times voracious, she is then abstemious to an extreme degree; and, intent only on providing for and shewing her young clutch their food, she scarcely takes any nourishment herself. Her parental pride seems to overpower every other appetite; but that decreases in proportion as her young ones are more able to provide for themselves, and then all her voracious habits return.

Among the other habits peculiar to this class of birds is that of dusting themselves. They lie flat in some dusty place, and with their wings and feet raise and scatter the dust over their whole body. What may be their reason for thus doing, it is not easy to explain. Perhaps the heat of their bodies is such, that they require this powder to be interposed between their feathers to keep them from lying too close together, and thus increasing that heat with which they are incommoded.

CHAP. II.

Of the Cock.

ALL birds taken under the protection of man lose a part of their natural figure, and are altered not only in their habits but their very form. Climate, food, and captivity, are three very powerful agents in producing these alterations; and those birds that have longest felt their influence under human direction, are the most likely to have the

greatest variety in their figures, their plumage, and their dispositions.

Of all other birds, the Cock seems to be the oldest companion of mankind, to have been first reclaimed from the forest, and taken to supply the accidental failure of the luxuries or necessities of life. As he is thus longest under the care of man, so of all others perhaps he exhibits the greatest number of varieties, there being scarce two birds of this species that exactly resemble each other in plumage and form. The tail, which makes such a beautiful figure in the generality of these birds, is yet found entirely wanting in others; and not only the tail but the rump also. The toes, which are usually four in all animals of the poultry kind, yet in a species of the cock are found to amount to five. The feathers, which lie so sleek and in such beautiful order in most of those we are acquainted with, are in a peculiar breed all inverted, and stand staring the wrong way. Nay, there is a species that comes from Japan, which instead of feathers seems to be covered over with hair. These and many other varieties are to be found in this animal, which seem to be the marks this early prisoner bears of his long captivity.

It is not well ascertained when the cock was first made domestic in Europe; but it is generally agreed that we first had him in our western world from the kingdom of Persia. Aristophanes calls the cock the Persian bird, and tells us he enjoyed that kingdom before some of its earliest monarchs. This animal was in fact known so early even in the most savage parts of Europe, that we are told the cock was one of the forbidden foods among the ancient Britons. Indeed, the domestic fowl seems to have banished

the wild one. Persia itself, that first introduced it to our acquaintance, seems no longer to know it in its natural form; and if we did not find it wild in some of the woods of India, as well as those of the islands in the Indian Ocean, we might begin to doubt, as we do with regard to the sheep, in what form it first existed in a state of nature.

But those doubts no longer exist: the cock is found in the island of Tinian, in many others of the Indian Ocean, and in the woods on the coast of Malabar, in his ancient state of independence. In his wild condition, his plumage is black and yellow, and his comb and wattles yellow and purple. There is another peculiarity also in those of the Indian woods; their bones, which when boiled with us are white, as every body knows, in those are as black as ebony. Whether this tincture proceeds from their food, as the bones are tinctured red by feeding upon madder, I leave to the discussion of others: satisfied with the fact, let us decline speculation.

In their first propagation in Europe, there were distinctions then that now subsist no longer. The ancients esteemed those fowls whose plumage was reddish as invaluable; but as for the white it was considered as utterly unfit for domestic purposes. These they regarded as subject to become a prey to rapacious birds; and Aristotle thinks them less fruitful than the former. Indeed, his division of those birds seems taken from their culinary uses; the one sort he calls generous and noble, being remarkable for fecundity; the other sort, ignoble and useless, from their sterility. These distinctions differ widely from our modern notions of generosity in this animal; that which we call the game-cock being by

no means so fruitful as the ungenerous dunghill-cock, which we treat with contempt. The Athenians had their cock-matches as well as we; but it is probable they did not enter into our refinement of chusing out the most barren of the species for the purposes of combat.

However this be, no animal in the world has greater courage than the cock when opposed to one of his own species; and in every part of the world where refinement and polished manners have not entirely taken place, cock-fighting is a principal diversion. In China, India, the Philipine Islands, and all over the east, cock-fighting is the sport and amusement even of kings and princes. With us it is declining every day: and it is to be hoped it will in time become only the pastime of the lowest vulgar. It is the opinion of many that we have a bolder and more valiant breed than is to be found elsewhere; and some, indeed, have entered into a serious discussion upon the cause of so flattering a singularity. But the truth is, they have cocks in China as bold, if not bolder, than ours; and, what would still be considered as valuable among cockers here, they have more strength with less weight. Indeed, I have often wondered why men who lay two or three hundred pounds upon the prowess of a single cock, have not taken every method to improve the breed. Nothing, it is probable, could do this more effectually than by crossing the strain, as it is called, by a foreign mixture; and whether having recourse even to the wild cock in the forests of India would not be useful, I leave to their consideration. However, it is a mean and ungenerous amusement, nor would I wish much to promote it. The truth is, I

could give such instructions with regard to cock-fighting, and could so arm one of these animals against the other, that it would be almost impossible for the adversary's cock to survive the first or second blow; but, as Boerhaave has said upon a former occasion, when he was treating upon poisons, "to teach the arts of cruelty is equivalent to committing them."

This extraordinary courage in the cock is thought to proceed from his being the most salacious of all other birds whatsoever. A single cock suffices for ten or a dozen hens; and it is said of him that he is the only animal whose spirits are not abated by indulgence. But then he soon grows old; the radical moisture is exhausted; and in three or four years he becomes utterly unfit for the purposes of impregnation. "Hens also," to use the words of Willughby, "as they for the greatest part of the year "daily lay eggs, cannot suffice for so many births, "but for the most part after three years become "effete and barren: for when they have exhausted "all their seed-eggs, of which they had but a certain quantity from the beginning, they must necessarily cease to lay, there being no new ones generated within."

The hen seldom clutches a brood of chickens above once a season, though instances have been known in which they produced two. The number of eggs a domestic hen will lay in the year are above two hundred, provided she be well fed, and supplied with water and liberty. It matters not much whether she be trodden by the cock or no; she will continue to lay, although all the eggs of this kind can never by hatching be brought to pro-

duce a living animal. Her nest is made without any care, if left to herself; a hole scratched into the ground, among a few bushes, is the only preparation she makes for this season of patient expectation. Nature, almost exhausted by its own fecundity, seems to inform her of the proper time for hatching, which she herself testifies by a clucking note, and by discontinuing to lay. The good housewives, who often get more by their hens laying than by their chickens, artificially protract this clucking season, and sometimes entirely remove it. As soon as their hen begins to cluck, they stint her in her provisions; and if that fails, they plunge her into cold water; this, for the time, effectually puts back her hatching; but then it often kills the poor bird, who takes cold and dies under the operation.

If left entirely to herself, the hen would seldom lay above twenty eggs in the same nest, without attempting to hatch them: but in proportion as she lays, her eggs are removed; and she continues to lay, vainly hoping to increase the number. In the wild state, the hen seldom lays above fifteen eggs; but then her provision is more difficultly obtained, and she is perhaps sensible of the difficulty of maintaining too numerous a family.

When the hen begins to sit, nothing can exceed her perseverance and patience; she continues for some days immoveable; and when forced away by the importunities of hunger, she quickly returns. Sometimes also her eggs become too hot for her to bear, especially if she be furnished with too warm a nest within doors, for then she is obliged to leave them to cool a little: thus the warmth of the nest only retards incubation, and often puts the brood a

day or two back in the shell. While the hen sits, she carefully turns her eggs, and even removes them to different situations; till at length, in about three weeks, the young brood begin to give signs of a desire to burst their confinement. When by the repeated efforts of their bill, which serves like a pioneer on this occasion, they have broke themselves a passage through the shell, the hen still continues to sit till all are excluded. The strongest and best chickens generally are the first candidates for liberty; the weakest come behind, and some even die in the shell. When all are produced, she then leads them forth to provide for themselves. Her affection and her pride seem then to alter her very nature, and correct her imperfections. No longer voracious or cowardly, she abstains from all food that her young can swallow, and flies boldly at every creature that she thinks is likely to do them mischief. Whatever the invading animal be, she boldly attacks him; the horse, the hog, or the mastiff. When marching at the head of her little troop, she acts the commander, and has a variety of notes to call her numerous train to their food, or to warn them of approaching danger. Upon one of these occasions, I have seen the whole brood run for security into the thickest part of an hedge, when the hen herself ventured boldly forth, and faced a fox that came for plunder. With a good mastiff, however, we soon sent the invader back to his retreat; but not before he had wounded the hen in several places.

Ten or twelve chickens are the greatest number that a good hen can rear and clutch at a time; but as this bears no proportion to the number of her eggs, schemes have been imagined to clutch all the

eggs of an hen, and thus turn her produce to the greatest advantage. By these contrivances it has been obtained that an hen, that ordinarily produces but twelve chickens in the year, is found to produce as many chickens as eggs, and consequently often above two hundred. The contrivance I mean is the artificial method of hatching chickens in stoves, as is practised at Grand Cairo; or in a chymical elaboratory properly graduated, as has been effected by Mr. Reaumur. At Grand Cairo they thus produce six or seven thousand chickens at a time; where, as they are brought forth in their mild spring, which is warmer than our summer, the young ones thrive without clutching. But it is otherwise in our colder and unequal climate; the little animal may, without much difficulty, be hatched from the shell; but they almost all perish when excluded. To remedy this, Reaumur has made use of a woollen hen, as he calls it; which was nothing more than putting the young ones in a warm basket, and clapping over them a thick woollen canopy. I should think a much better substitute might be found; and this from among the species themselves. Capons may very easily be taught to clutch a fresh brood of chickens throughout the year; so that when one little colony is thus reared, another may be brought to succeed it. Nothing is more common than to see capons thus employed; and the manner of teaching them is this: first the capon is made very tame, so as to feed from one's hand; then, about evening, they pluck the feathers off his breast, and rub the bare skin with nettles; they then put the chickens to him, which presently run under his breast and belly, and probably rub-

bing his bare skin gently with their heads, allay the stinging pain which the nettles had just produced. This is repeated for two or three nights, till the animal takes an affection to the chickens that have thus given him relief, and continues to give them the protection they seek for: perhaps also the querulous voice of the chickens may be pleasant to him in misery, and invite him to succour the distrest. He from that time brings up a brood of chickens like a hen, clutching them, feeding them, clucking, and performing all the functions of the tenderest parent. A capon once accustomed to this service, will not give over; but when one brood is grown up, he may have another nearly hatched put under him, which he will treat with the same tenderness he did the former.

The cock, from his salaciousness, is allowed to be a short-lived animal; but how long these birds live, if left to themselves, is not yet well ascertained by any historian. As they are kept only for profit, and in a few years become unfit for generation, there are few that, from mere motives of curiosity, will make the tedious experiment of maintaining a proper number till they die. Aldrovandus hints their age to be ten years; and it is probable that this may be its extent. They are subject to some disorders, which it is not our business to describe; and as for poisons, besides nux vomica, which is fatal to most animals except man, they are injured, as Linnæus asserts, by elder-berries; of which they are not a little fond.*

* [Mr. White, in his Natural History of Selbourne, observes, that with regard to the notes and language of birds, it is remarked

CHAP. III.

Of the Peacock.

THE Peacock, by the common people of Italy, is said to have the plumage of an angel, the voice of a devil, and the guts of a thief. In fact each of these qualities mark pretty well the nature of this extraordinary bird. When it appears with its tail expanded, there is none of the feathered

that they are adapted to express their various wants and passions, and are more or less perfect in different species.

" No inhabitants of a yard seem possessed of such a variety of expression, and so copious a language, as common poultry. Take a chicken of four or five days old, and hold it up to a window where there are flies, and it will immediately seize its prey, with little twitterings of complacency; but if you tender it a wasp or a bee, at once its note becomes harsh, and expressive of disapprobation and a sense of danger. When a pullet is ready to lay, she intimates the event by an easy and joyous soft note. Of all the occurrences of their life, that of laying seems to be most important; for no sooner has a hen disburthened herself, than she rushes forth with a clamorous kind of joy, which the cock and the rest of his mistresses immediately adopt. The tumult is not confined to the family concerned, but catches from yard to yard, and spreads to every homestead within hearing, till at last the whole village is in an uproar. As soon as a hen becomes a mother, her new relation demands a new language, she then runs clucking and screaming about, and seems agitated as if possessed. The father of a flock has also a considerable vocabulary; if he finds food, he calls a favourite concubine to partake; and if a bird of prey passes over, with a warning voice bids his family beware. The gallant chanticleer has at command his amorous phrases, and his terms of defiance. But the sound by which he is best known is his crowing: by this he has been distinguished in all ages, as the countryman's clock or larum, as the watchman that proclaims the divisions of the night, and " whose clarion sounds the silent hours."]

creation can vie with it for beauty; yet the horrid scream of its voice serves to abate the pleasure we find from viewing it; and still more, its insatiable gluttony and spirit of depredation make it one of the most noxious domestics that man has taken under his protection.

Our first peacocks were brought from the East-Indies; and we are assured, that they are still found in vast flocks, in a wild state, in the islands of Java and Ceylon. So beautiful a bird, and one esteemed such a delicacy at the tables of the luxurious, could not be permitted to continue long at liberty in its distant retreats. So early as the days of Solomon, we find in his navies, among the articles imported from the East, apes and peacocks. Ælian relates, that they were brought into Greece from some barbarous country, and were held in such high esteem among them, that a male and female were valued at above thirty pounds of our money. We are told also, that when Alexander was in India, he found them flying wild, in vast numbers, on the banks of the river Hyarotis, and was so struck with their beauty, that he laid a severe fine and punishment on all who should kill or disturb them. Nor are we to be surprised at this, as the Greeks were so much struck with the beauty of this bird, when first brought among them, that every person paid a fixed price for seeing it; and several people came to Athens, from Lacedæmon and Thessaly, purely to satisfy their curiosity.

It was probably first introduced into the west, merely on account of its beauty; but mankind, from contemplating its figure, soon came to think of serving it up for a different entertainment. Au-

fidius Hurco stands charged by Pliny with being the first who fatted up the peacock for the feast of the luxurious. Whatever there may be of delicacy in the flesh of a young peacock, it is certain an old one is very indifferent eating; nevertheless, there is no mention made of chusing the youngest; it is probable they were killed indiscriminately, the beauty of the feathers in some measure stimulating the appetite. Hortensius the orator was the first who served them up at an entertainment at Rome; and from that time they were considered as one of the greatest ornaments of every feast. Whether the Roman method of cookery, which was much higher than ours, might not have rendered them more palatable than we find them at present, I cannot tell: but certain it is, they talk of the peacock as being the first of viands.

Its fame for delicacy, however, did not continue very long; for we find, in the times of Francis the First, that it was a custom to serve up peacocks to the tables of the great, with an intention not to be eaten, but only to be seen. Their manner was to strip off the skin; and then preparing the body with the warmest spices, they covered it up again in its former skin, with all its plumage in full display, and no way injured by the preparation. The bird thus prepared, was often preserved for many years without corrupting; and it is asserted of the peacock's flesh, that it keeps longer unputrefied than that of any other animal. To give a higher zest to these entertainments, on weddings particularly, they filled the bird's beak and throat with cotton and camphire, which they set on fire, to amuse and delight the company. I do not know that the pea-

cock is much used at our entertainments at present except now and then at an alderman's dinner or a common-council feast, when our citizens resolve to be splendid; and even then it is never served with its cotton and camphire.

Like other birds of the poultry kind, the peacock feeds upon corn; but its chief predilection is for barley. But as it is a very proud and fickle bird, there is scarcely any food that it will not at times covet and pursue. Insects and tender plants are often eagerly sought at a time that it has a sufficiency of its natural food provided more nearly. In the indulgence of these capricious pursuits, walls cannot easily confine it; it strips the tops of houses of their tiles or thatch, it lays waste the labours of the gardener, roots up his choicest seeds, and nips his favourite flowers in the bud. Thus its beauty but ill recompenses for the mischief it occasions; and many of the more homely looking fowls are very deservedly preferred before it.

Nor is the peacock less a debauchee in its affections, than a glutton in its appetites. He is still more salacious than even the cock; and though not possessed of the same vigour, yet burns with more immoderate desire. He requires five females at least to attend him; and if there be not a sufficient number, he will even run upon and tread the sitting hen. For this reason the pea-hen endeavours, as much as she can, to hide her nest from the male, as he would otherwise disturb her sitting, and break her eggs.

The pea-hen seldom lays above five or six eggs in this climate before she sits. Aristotle describes her as laying twelve; and it is probable, in her native climate, she may be thus prolific; for it is certain,

that in the forests where they breed naturally, they are numerous beyond expression. This bird lives about twenty years; and not till its third year has it that beautiful variegated plumage that adorns its tail.

"In the kingdom of Cambaya," says Taverner, "near the city of Baroch, whole flocks of them are "seen in the fields. They are very shy, however, and "it is impossible to come near them. They run off "swifter than the partridge; and hide themselves in "thickets, where it is impossible to find them. "They perch, by night, upon trees; and the fowl-"er often approaches them at that season with a "kind of banner, on which a peacock is painted "to the life, on either side. A lighted torch is fixed "on the top of this decoy; and the peacock, when "disturbed, flies to what it takes for another, and "is thus caught in a noose prepared for that pur-"pose."

There are varieties of this bird, some of which are white, others crested: that which is called the Peacock of Thibet, is the most beautiful of the feathered creation, containing in its plumage all the most vivid colours, red, blue, yellow, and green, disposed in an almost artificial order, as if merely to please the eye of the beholder.

CHAP. IV.

The Turkey.

THE natal place of the cock and the peacock, is pretty well ascertained, but there are stronger doubts concerning the Turkey; some contending that it has

been brought into Europe from the East Indies many centuries ago; while others assert that it is wholly unknown in that part of the world, that it is a native of the New Continent, and that it was not brought into Europe till the discovery of that part of the world.

Those who contend for the latter opinion, very truly observe, that among all the descriptions we have of Eastern birds, that of the turkey is not to be found: while, on the contrary, it is very well known in the New Continent, where it runs wild about the woods. It is said, by them, to be first seen in France, in the reign of Francis the First; and in England, in that of Henry the Eighth; which is about the time when Mexico was first conquered by Spain. On the other hand, it is asserted, that the turkey, so far from being unknown in Europe before that time, was known even to the ancients; and that Ælian has given a pretty just description of it. They alledge, that its very name implies its having been brought from some part of the East; and that it is found, among other dainties served up to the tables of the great, before that time among ourselves. But what they pretend to be the strongest proof is, that though the wild turkey be so very common in America, yet the natives cannot contrive to tame it; and though hatched in the ordinary manner, nothing can render it domestic. In this diversity of opinions, perhaps it is best to suspend assent, till more lights are thrown on the subject; however, I am inclined to concur with the former opinion.

With us, when young, it is one of the tenderest of all birds; yet, in its wild state, it is found in great plenty in the forests of Canada, that are covered with snow above three parts of the year. In

their natural woods, they are found much larger than in their state of domestic captivity. They are much more beautiful also, their feathers being of a dark grey, bordered at the edges with a bright gold-colour. These the savages of the country weave into cloaks to adorn their persons, and fashion into fans and umbrellas, but never once think of taking into keeping animals that the woods furnish them with in sufficient abundance. Savage man seems to find a delight in precarious possession. A great part of the pleasure of the chace lies in the uncertainty of the pursuit, and he is unwilling to abridge himself in any accidental success that may attend his fatigues. The hunting the turkey, therefore, makes one of his principal diversions; as its flesh contributes chiefly to the support of his family. When he has discovered the place of their retreat, which, in general, is near fields of nettles, or where there is plenty of any kind of grain, he takes his dog with him, which is trained to the sport, (a faithful rough creature, supposed to be originally reclaimed from the wolf) and he sends him into the midst of the flock. The turkies no sooner perceive their enemy, than they set off running at full speed, and with such swiftness, that they leave the dog far behind them: he follows nevertheless, and sensible they must soon be tired, as they cannot go full speed for any length of time, he, at last, forces them to take shelter in a tree, where they sit quite spent and fatigued, till the hunter comes up, and with a long pole, knocks them down one after the other.

This manner of suffering themselves to be destroyed argues no great instinct in the animal; and indeed, in their captive state, they do not appear

to be possessed of much. They seem a stupid, vain, querulous tribe, apt enough to quarrel among themselves, yet without any weapons to do each other an injury. Every body knows the strange antipathy the turkey cock has to a red colour; how he bristles, and, with his peculiar gobbling sound, flies to attack it. But there is another method of increasing the animosity of these birds against each other, which is often practised by boys, when they have a mind for a battle. This is no more than to smear over the head of one of the turkies with dirt, and the rest run to attack it with all the speed of impotent animosity: nay, two of them, thus disguised, will fight each other till they are almost suffocated with fatigue and anger.

But though so furious among themselves, they are weak and cowardly against other animals, though far less powerful than they. The cock often makes the turkey keep at a distance; and they seldom venture to attack him but with united force, when they rather oppress him by their weight, than annoy him by their arms. There is no animal, how contemptible soever, that will venture boldly to face the turkey-cock, that he will not fly from. On the contrary, with the insolence of a bully, he pursues any thing that seems to fear him, particularly lap-dogs and children, against both which he seems to have a peculiar aversion. On such occasions, after he has made them scamper, he returns to his female train, displays his plumage around, struts about the yard, and gobbles out a note of self-approbation*.

* [In the American medical repository, an instance is recorded, where the Turkey-cock seemed to shew a considerable share of courage and prowess. A gentleman of New York received from

The female seems of a milder, gentler disposition. Rather querulous than bold, she hunts about in quest of grain, and pursuit of insects, being particularly delighted with the eggs of ants and caterpillars. She lays eighteen or twenty eggs, larger than those of a hen, whitish, but marked with spots, resembling the freckles of the face. Her young are extremely tender at first, and must be carefully fed with curd chopped with dock-leaves; but as they grow older, they become more hardy, and follow the mother to considerable distances, in pursuit of insect food, which they prefer to any other. On these occasions, however, the female, though so large, and, as it would seem so powerful a bird, gives them but very little protection against the attacks of any rapacious animal that comes in her way. She rather warns her young to shift for themselves, than prepares to defend them. "I have heard," says the Abbe la Pluche, "a turkey-hen, when at the head of her "brood, send forth the most hideous scream, with- "out knowing as yet the cause; however, her "young, immediately when the warning was given,

a distant part a Turkey-cock and hen, and with them a pair of Bantams: these he put all together into the yard with his other poultry. Some time afterwards, as he was feeding them from the barn-door, a large hawk suddenly turned the corner of the barn, and made a pounce at the bantam hen: she immediately gave the alarm, by a noise which is natural to her on such occasions; when the Turkey-cock, who was at the distance of about two yards, and without doubt understood the hawk's intentions, and the immediate danger of his old acquaintance, flew at the tyrant with such violence, and gave him so severe a stroke with his spurs, as to knock him from the hen to a considerable distance; and the timely aid of this friendly auxiliary, completely saved the bantam from being devoured.]

"skulked under the bushes, the grass, or whatever
"else offered for shelter or protection. They even
"stretched themselves at their full length upon the
"ground, and continued lying as motionless as if
"they were dead. In the mean time, the mother,
"with her eyes directed upwards, continued her
"cries and screaming as before. Upon looking up
"to where she seemed to gaze, I discovered a
"black spot just under the clouds, but was unable at
"first to determine what it was; however, it soon ap-
"peared to be a bird of prey, though at first at
"too great a distance to be distinguished. I have
"seen one of these animals continue in this violent
"agitated state, and her whole brood pinned down
"as it were to the ground, for four hours together;
"whilst their formidable foe has taken his circuits,
"has mounted, and hovered directly over their
"heads: at last, upon disappearing, the parent be-
"gan to change her note, and sent forth another
"cry, which in an instant gave life to the whole
"trembling tribe, and they all flocked round her
"with expressions of pleasure, as if conscious of
"their happy escape from danger."

When once grown up, turkies are very hardy birds, and feed themselves at very little expence to the farmer. Those of Norfolk, are said to be the largest of this kingdom, weighing from twenty to thirty pounds. There are places, however, in the East Indies, where they are known only in their domestic state, in which they grow to the weight of sixty pounds.

CHAP. V.

The Pheasant.

IT would surprise a sportsman to be told that the Pheasant which he finds wild in the woods, in the remotest parts of the kingdom, and in forests, which can scarcely be said to have an owner, is a foreign bird, and was at first artificially propagated amongst us. They were brought into Europe, from the banks of the Phasis, a river of Colchis, in Asia Minor; and from whence they still retain their name.

Next to the peacock, they are the most beautiful of birds, as well for the vivid colour of their plumes, as for their happy mixtures and variety. It is far beyond the power of the pencil to draw any thing so glossy, so bright, or points so finely blending into each other. We are told that when Crœsus, king of Lydia, was seated on his throne, adorned with royal magnificence, and all the barbarous pomp of eastern splendour, he asked Solon if he had ever beheld any thing so fine! The Greek philosopher, no way moved by the objects before him, or taking a pride in his native simplicity, replied, that after having seen the beautiful plumage of the pheasant, he could be astonished at no other finery.

In fact, nothing can satisfy the eye with a greater variety and richness of ornament than this beautiful creature. The iris of the eye is yellow; and the eyes themselves are surrounded with a scarlet co-

lour, sprinkled with small specks of black. On the fore part of the head there are blackish feathers mixed with a shining purple. The top of the head and the upper part of the neck are tinged with a darkish green that shines like silk. In some, the top of the head is of a shining blue, and the head itself, as well as the upper part of the neck, appears sometimes blue and sometimes green, as it is differently placed to the eye of the spectator. The feathers of the breast, the shoulders, the middle of the back, and the sides under the wings, have a blackish ground, with edges tinged of an exquisite colour, which appears sometimes black and sometimes purple, according to the different lights it is placed in; under the purple there is a transverse streak of gold colour. The tail, from the middle feathers to the root, is about eighteen inches long; the legs, the feet, and the toes, are of the colour of horn. There are black spurs on the legs, shorter than those of a cock; there is a membrane that connects two of the toes together; and the male is much more beautiful than the female.

This bird, though so beautiful to the eye, is not less delicate when served up to the table. Its flesh is considered as the greatest dainty; and when the old physicians spoke of the wholesomeness of any viands, they made their comparison with the flesh of the pheasant. However, notwithstanding all these perfections to tempt the curiosity or the palate, the pheasant has multiplied in its wild state: and, as if disdaining the protection of man, has left him to take shelter in the thickest woods and the remotest forests. All others of the domestic kind, the cock, the turkey or the pintada, when once reclaimed,

have still continued in their domestic state, and persevered in the habits and appetites of willing slavery. But the pheasant, though taken from its native warm retreats, where the woods supply variety of food, and the warm sun suits its tender constitution, has still continued its attachment to native freedom; and, now wild among us, makes the most envied ornament of our parks and forests, where he feeds upon acorns and berries, and the scanty produce of our chilling climate.

This spirit of independence seems to attend the pheasant even in captivity. In the woods, the hen pheasant lays from eighteen to twenty eggs in a season: but in a domestic state she seldom lays above ten. In the same manner, when wild, she hatches and leads up her brood with patience, vigilance, and courage; but when kept tame, she never sits well; so that a hen is generally her substitute upon such occasions; and as for leading her young to their food, she is utterly ignorant of where it is to be found; and the young birds starve, if left solely to her protection. The pheasant, therefore, on every account, seems better left at large in the woods than reclaimed to pristine captivity. Its fecundity when wild is sufficient to stock the forest; its beautiful plumage adorns it; and its flesh retains a higher flavour from its unlimited freedom.

However, it has been the aim of late to take these birds once more from the woods, and to keep them in places fitted for their reception. Like all others of the poultry kind, they have no great sagacity, and suffer themselves easily to be taken. At night they roost upon the highest trees of the wood; and by day they come down into the lower brakes

and bushes, where their food is chiefly found. They generally make a kind of flapping noise when they are with the females; and this often apprizes the sportsman of their retreats. At other times he tracks them in the snow, and frequently takes them in springs.' But of all birds they are shot most easily, as they always make a whirring noise when they rise, by which they alarm the gunner, and being a large mark, and flying very slow, there is scarcely any missing them.

> Ah! what avail his glossy, varying dyes,
> His purpled crest and scarlet-circled eyes,
> The vivid green his shining plumes unfold,
> His painted wings, and breast that flames with gold?
>
> POPE.

When these birds are taken young into keeping, they become as familiar as chickens; and when they are designed for breeding, they are put together in a yard, five hens to a cock; for this bird, like all of the poultry kind, is very salacious. In her natural state the female makes her nest of dry grass and leaves; the same must be laid for her in the pheasantry, and she herself will sometimes properly dispose them. If she refuses to hatch her eggs, then a common hen must be got to supply her place, which task she will perform with perseverance and success. The young ones are very difficult to be reared: and they must be supplied with ants-eggs, which is the food the old one leads them to gather when wild in the woods. To make these go the farther, they are to be chopped up with curds or other meat; and the young ones are to be fed with great exactness, both as to the quantity and the time

of their supply. This food is sometimes also to be varied, and wood-lice, ear-wigs, and other insects, are to make a variety. The place where they are reared must be kept extremely clean; their water must be changed twice or thrice a day; they must not be exposed till the dew is off the ground in the morning; and they should always be taken in before sun-set. When they become adult, they very well can shift for themselves, but they are particularly fond of oats and barley.

In order to increase the breed, and make it still more valuable, Longolius teaches us a method that appears very peculiar. The pheasant is a very bold bird when first brought into the yard among other poultry, not sparing the peacock, nor even such young cocks and hens as it can master; but after a time it will live tamely among them, and will at last be brought to couple with a common hen. The breed thus produced take much stronger after the pheasant than the hen; and in a few successions, if they be let to breed with the cock-pheasant, for the mixture is not barren, there will be produced a species more tame, stronger and more prolific; so that he adds, that it is strange why most of our pheasantries are not stocked with birds produced in this manner.

The pheasant, when full grown, seems to feed indifferently upon every thing that offers. It is said by a French writer, that one of the king's sportsmen shooting at a parcel of crows, that were gathered round a dead carcase, to his great surprize upon coming up, found that he had killed as many pheasants as crows. It is even asserted by some, that such is the carnivorous disposition of this bird, that

when several of them are put together in the same yard, if one of them happens to fall sick, or seems to be pining, that all the rest will fall upon, kill, and devour it. Such is the language of books; those who have frequent opportunities of examining the manners of the bird itself, know what credit ought to be given to such an account.

Of the pheasant, as of all other domestic fowl, there are many varieties. There are white pheasants, crested pheasants, spotted pheasants; but of all others, the golden pheasant of China is the most beautiful. It is a doubt whether the peacock itself can bear the comparison. However, the natives of China would not have us consider it as their most beautiful bird, though covered all over with eyes, resembling in miniature those of a peacock. By their accounts it is far exceeded by the fongwhang, an imaginary bird of which they give a most fantastic description. It is thus that the people of every country, though possessed of the greatest advantages, have still others that they would persuade strangers they enjoy, which have existence only in the imagination.

CHAP. VI.

The Pintada or Guinea-Hen.

THIS is a very remarkable bird, and in some measure unites the characteristics of the pheasant and the turkey. It has the fine delicate shape of the one, and the bare head of the other. To be more particular,

it is about the size of a common hen; but as it is supported on longer legs, it looks much larger. It has a round back, with a tail turned downwards like a partridge. The head is covered with a kind of casque; and the whole plumage is black or dark grey, speckled with white spots. It has wattles under the bill, which do not proceed from the lower chap as in cocks, but from the upper, which gives it a very peculiar air, while its restless gait and odd chuckling sound distinguish it sufficiently from all other birds whatever.

It is well known all over Europe, and even better than with us, as the nations that border on the Mediterranean probably had it before us from those parts of Africa which lay nearest. Accordingly we find it in different countries called by different names, from the place whence they had it. They are by some called the Barbary-hen; by others, the Tamis bird; and by others, the bird of Numidia. We have given it the name of that part of Africa from whence probably it was first brought.

In many parts of their native country, they are seen in vast flocks together, feeding their young, and leading them in quest of food. All their habits are like those of the poultry-kind, and they agree in every other respect, except that the male and female are so much alike, that they can hardly be distinguished asunder. The only difference lies in the wattles described above, which in the cock are of a blueish cast; in the hen, they are more inclining to a red. Their eggs, like their bodies, are speckled; in our climate, they lay but five or six in a season; but they are far more prolific in their sultry regions at home. They are kept among us rather for shew

than use, as their flesh is not much esteemed, and as they give a good deal of trouble in the rearing.

CHAP. VII.

The Bustard.

THE Bustard is the largest land-bird that is a native of Britain. It was once much more numerous than it is at present; but the increased cultivation of the country, and the extreme delicacy of its flesh, has greatly thinned the species; so that a time may come when it may be doubted whether ever so large a bird was bred among us. It is probable that long before this the bustard would have been extirpated, but for its peculiar manner of feeding. Had it continued to seek shelter among our woods, in proportion as they were cut down, it must have been destroyed. If in the forest, the fowler might approach it without being seen; and the bird, from its size, would be too great a mark to be easily missed. But it inhabits only the open and extensive plain, where its food lies in abundance, and where every invader may be seen at a distance.

The bustard is much larger than the turkey, the male generally weighing from twenty-five to twenty-seven pounds. The neck is a foot long, and the legs a foot and a half. The wings are not proportionable to the rest of the body, being but four feet from the tip of one to the other; for which reason the bird flies with great difficulty. The head and neck of the male are ash-coloured; the back is bar-

red transversely with black, bright, and rust-colour. The greater quill feathers are black; the belly white; and the tail, which consists of twenty feathers, is marked with broad black bars.

It would seem odd, as was hinted before, how so large a land-bird as this could find shelter in so cultivated a country as England; but the wonder will cease when we find it only in the most open countries, where there is scarcely any approaching without being discovered. They are frequently seen in flocks of fifty or more, in the extensive downs of Salisbury Plain, in the heaths of Sussex and Cambridgeshire, the Dorsetshire uplands, and so on as far as East Lothian in Scotland. In those extensive plains, where there are no woods to screen the sportsman, nor hedges to creep along, the bustards enjoy an indolent security. Their food is composed of the berries that grow among the heath, and the large earth-worms that appear in great quantities on the downs before sun-rising in summer. It is in vain that the fowler creeps forward to approach them, they have always centinels placed at proper eminences, which are ever on the watch, and warn the flock of the smallest appearance of danger. All therefore that is left the sportsman, is the comfortless view of their distant security. He may wish, but they are in safety.

It sometimes happens that these birds, though they are seldom shot by the gun, are often run down by grey-hounds. As they are voracious and greedy, they often sacrifice their safety to their appetite, and feed themselves so very fat, that they are unable to fly without great preparation. When the greyhound, therefore, comes within a certain distance,

the bustard runs off flapping its wings, and endeavouring to gather air enough under them to rise; in the mean time, the enemy approaches nearer and nearer, till it is too late for the bird even to think of obtaining safety by flight; for just at the rise there is always time lost, and of this the bird is sensible; it continues, therefore, on the foot until it has got a sufficient way before the dog for flight, or until it is taken.

As there are few places where they can at once find proper food and security, so they generally continue near their old haunts, seldom wandering above twenty or thirty miles from home. As their food is replete with moisture, it enables them to live upon these dry plains, where there are scarcely any springs of water, a long time without drinking. Besides this, Nature has given the males an admirable magazine for their security against thirst. This is a pouch, the entrance of which lies immediately under the tongue, and capable of holding near seven quarts of water. This is probably filled upon proper occasions, to supply the hen when sitting, or the young before they can fly*.

Like all other birds of the poultry-kind, they change their mates at the season of incubation, which is about the latter end of summer. They separate in pairs if there be a sufficiency of females for the males; but when this happens to be otherwise, the males fight until one of them falls. In

* [The size of this reservoir seems something exaggerated; for with an addition of nearly fourteen pounds weight thrown forwards, the centre of gravity must be so much overbalanced, as to destroy its power of flight, and impede its running. About half this quantity seems a probable sufficiency for all its wants.]

France, they often find some of those victims to gallantry dead in the fields, and no doubt are not displeased at the occasion.

They make their nests upon the ground, only just scraping a hole in the earth, and sometimes lining it with a little long grass or straw. There they lay two eggs only, almost of the size of a goose-egg, of a pale olive brown, marked with spots of a darker colour. They hatch for about five weeks, and the young ones run about as soon as they are out of the shell.

The bustards assemble in flocks in the month of October, and keep together till April. In winter, as their food becomes more scarce, they support themselves indiscriminately by feeding on moles, mice, and even little birds, when they can seize them. For want of other food, they are contented to live upon turnip-leaves and such like succulent vegetables. In some parts of Switzerland, they are found frozen in the fields in severe weather; but when taken to a warm place they again recover. They usually live fifteen years, and are incapable of being propagated in a domestic state, as they probably want that food which best agrees with their appetite.

CHAP. VIII.

The Grous, and its Affinities.

THE Cock of the Wood, the Black Cock, the Grous, and the Ptarmigan.—These are all birds of a similar nature, and chiefly found in heathy moun-

tains and piny forests, at a distance from mankind. They might once indeed have been common enough all over England, when a great part of the country was covered with heath; but at present their numbers are thinned: the two first of this kind are utterly unknown in the south, and have taken refuge in the northern parts of Scotland, where the extensive heaths afford them security, and the forests shelter.

The cock of the wood is sometimes of the size of a turkey, and often weighs near fourteen pounds; the black cock, of which the male is all over black, though the female is of the colour of a partridge, is about the size of an hen, and, like the former, is only found with us in the Highlands of Scotland; the grous is about half as large again as a partridge, and its colour much like that of a woodcock, but redder; the ptarmigan is still somewhat less, and is of a pale brown or ash-colour. They are all distinguishable from other birds of the poultry kind, by a naked skin, of a scarlet colour, above the eyes, in the place and of the figure of eye-brows.

It seems to be something extraordinary, that all the larger wild animals of every species chuse the darkest and the inmost recesses of the woods for their residence, while the smaller kinds come more into the open and cultivated parts, where there is more food and more danger. It is thus with the birds I am describing: while the cock of the wood is seldom seen, except on the inaccessible parts of heathy mountains, or in the midst of piny forests, the grous is found, in great numbers, in the neighbourhood of corn-fields where there is heath to afford retreat and shelter. Their food too somewhat differs:

while the smaller kind lives upon heath-blossoms, cranberries, and corn, the larger feeds upon the cones of the pine-tree; and will sometimes entirely strip one tree, before it offers to touch those of another, though just beside him. In other respects, the manners of these birds are the same; being both equally simple, in their diet, and licentious in their amours.

The Cock of the Wood, for it is from him we will take our description, is, as was said, chiefly fond of a mountainous and wooded situation. In winter he resides in the darkest and inmost part of the woods; in summer he ventures down from his retreats, to make short depredations on the farmer's corn. The delicacy of his flesh in some measure sets a high price upon his head; and as he is greatly sought after, so he continues when he comes down from the hills, always on his guard. Upon these occasions, he is seldom surprised; and those who would take him, must venture up to find him in his native retreats.

The cock of the wood, when in the forest, attaches himself principally to the oak and the pine-tree; the cones of the latter serving for his food, and the thick boughs for an habitation. He even makes a choice of what cones he shall feed upon; for he sometimes will strip one tree bare before he will deign to touch the cones of another. He feeds also upon ants eggs, which seem a high delicacy to all birds of the poultry kind: cranberries are likewise often found in his crop; and his gizzard, like that of domestic fowls, contains a quantity of gravel, for the purposes of assisting his powers of digestion.

At the earliest return of spring, this bird begins to feel the genial influence of the season. During the

month of March, the approaches of courtship are continued, and do not desist till the trees have all their leaves, and the forest is in full bloom. During this whole season, the cock of the wood is seen at sun-rise and setting extremely active upon one of the largest branches of the pine-tree. With his tail raised and expanded like a fan, and the wings drooping, he is seen walking backward and forward, his neck stretched out, his head swoln and red, and making a thousand ridiculous postures; his cry, upon that occasion, is a kind of loud explosion, which is instantly followed by a noise like the whetting of a scythe, which ceases and commences alternately for about an hour, and is then terminated by the same explosion.

During the time this singular cry continues, the bird seems entirely deaf, and insensible of every danger: whatever noise may be made near him, or even though fired at, he still continues his call; and this is the time that sportsmen generally take to shoot him. Upon all other occasions, he is the most timorous and watchful bird in nature: but now he seems entirely absorbed by his instincts: and seldom leaves the place where he first begins to feel the accesses of desire. This extraordinary cry, which is accompanied by a clapping of the wings, is no sooner finished, than the female hearing it replies, approaches, and places herself under the tree, from whence the cock descends to impregnate her. The number of females that, on this occasion, resort to his call, is uncertain; but one male generally suffices for all.

The female is much less than her mate, and entirely unlike him in plumage, so that she might be

mistaken for a bird of another species: she seldom lays more than six or seven eggs, which are white, and marked with yellow, of the size of a common hen's egg: she generally lays them in a dry place and a mossy ground, and hatches them without the company of the cock. When she is obliged, during the time of incubation, to leave her eggs in quest of food, she covers them up so artfully, with moss or dry leaves, that it is extremely difficult to discover them. On this occasion, she is extremely tame and tranquil, however wild and timorous in ordinary. She often keeps to her nest, though strangers attempt to drag her away.

As soon as the young ones are hatched, they are seen running with extreme agility after the mother, though sometimes they are not entirely disengaged from the shell. The hen leads them forward, for the first time, into the woods, shews them ants eggs, and the wild mountain-berries, which, while young, are their only food. As they grow older, their appetites grow stronger, and they then feed upon the tops of hether and the cones of the pine-tree. In this manner they soon come to perfection; they are an hardy bird, their food lies every where before them, and it would seem that they should encrease in great abundance. But this is not the case; their numbers are thinned by rapacious birds and beasts of every kind; and still more by their own salacious contests.

As soon as the clutching is over, which the female performs in the manner of an hen, the whole brood follows the mother for about a month or two; at the end of which the young males entirely forsake her, and keep in great harmony together till the be-

ginning of spring. At this season they begin, for the first time, to feel the genial access; and then adieu to all their former friendships! They begin to consider each other as rivals; and the rage of concupiscence quite extinguishes the spirit of society. They fight each other, like game cocks; and at that time are so inattentive to their own safety, that it often happens that two or three of them are killed at a shot. It is probable, that in these contests, the bird which comes off victorious takes possession of the female seraglio, as it it is certain that they have no faithful attachments*.

CHAP. IX.

Of the Partridge, and its Varieties.

THE Partridge may be particularly considered as belonging to the sportsman. It is a bird which even our laws have taken under protection; and, like a peacock or a hen, may be ranked as a private property. The only difference now is, that we feed one in our farms, the other in our yards; that these are contented captives; those, servants that have it in their power to change their master, by changing their habitation.

"These, birds," says Willughby, "hold the principal place in the feasts and entertainments of "princes; without which their feasts are esteemed "ignoble, vulgar, and of no account. The French-"men do so highly value, and are so fond of the

* This account of the Cock of the Wood is taken from the Journal Œconomique, and may be relied on.

"partridge, that if they be wanting, they utterly "slight and despise the best spread tables; as if "there could be no feast without them." But however this might be in the times of our historian, the partridge is now too common in France to be considered as a delicacy; and this, as well as every other simple dish, is exploded for luxuries of a more compound invention.

In England, where the partridge is much scarcer, and a great deal dearer, it is still a favourite delicacy at the tables of the rich: and the desire of keeping it to themselves, has induced them to make laws for its preservation, no way harmonizing with the general spirit of English legislation. What can be more arbitrary than to talk of preserving the game; which, when defined, means no more than that the poor shall abstain from what the rich have taken a fancy to keep for themselves? If these birds could, like a cock or a hen, be made legal property; could they be taught to keep within certain districts, and only feed on those grounds that belong to the man whose entertainments they improve, it then might, with some shew of justice, be admitted, that as a man fed them, so he might claim them. But this is not the case; nor is it in any man's power to lay a restaint upon the liberty of these birds, that, when let loose, put no limits to their excursions. They feed every where, upon every man's ground; and no man can say, These birds are fed only by me. Those birds which are nourished by all, belong to all; nor can any one man, or any set of men, lay claim to them, when still continuing in a state of nature.

I never walked out about the environs of Paris,

that I did not consider the immense quantity of game that was running almost tame on every side of me, as a badge of the slavery of the people; and what they wished me to observe as an object of triumph, I always regarded with a kind of secret compassion: yet this people have no game-laws for the remoter parts of the kingdom; the game is only preserved in a few places for the king; and is free in most places else. In England, the prohibition is general; and the peasant has not a right to what even slaves, as he is taught to call them, are found to possess.

Of partridges there are two kinds; the grey and the red. The red partridge is the largest of the two, and often perches upon trees; the grey, with which we are best acquainted in England, is most prolific, and always keeps on the ground.

The partridge seems to be a bird well known all over the world, as it is found in every country, and in every climate; as well in the frozen regions about the pole, as the torrid tracts under the equator. It even seems to adapt itself to the nature of the climate where it resides. In Greenland, the partridge, which is brown in summer, as soon as the icy winter sets in, begins to take a covering suited to the season: it is then cloathed with a warm down beneath; and its outward plumage assumes the colour of the snows amongst which it seeks its food. Thus it is doubly fitted for the place, by the warmth and the colour of its plumage; the one to defend it from the cold, the other to prevent its being noticed by the enemy. Those of Barakonda, on the other hand, are longer legged, much swifter of foot, and chuse the highest rocks and precipices to reside in.

They all, however, agree in one character, of being immoderately addicted to venery; and, as some writers affirm, often to an unnatural degree. It is certain, the male will pursue the hen even to her nest; and will break her eggs, rather than not indulge his inclinations. Though the young ones have kept together in flocks during the winter, when they begin to pair in spring, their society disperses; and combats, very terrible with respect to each other, ensue. Their manners, in other circumstances, resemble all those of poultry in general; but their cunning and instincts seem superior to those of the larger kinds. Perhaps, as they live in the very neighbourhood of their enemies, they have more frequent occasion to put their little arts in practice; and learn, by habit, the means of evasion or safety. Whenever, therefore, a dog, or other formidable animal approaches their nest, the female uses every means to draw him away. She keeps just before him, pretends to be incapable of flying, just hops up and then falls down before him, but never goes off so far as to discourage her pursuer. At length, when she has drawn him entirely away from her secret treasure, she at once takes wing, and fairly leaves him to gaze after her in despair.

After the danger is over, and the dog withdrawn, she then calls her young, who assemble at once at her cry, and follow where she leads them. There are generally from ten to fifteen in a covey; and, if unmolested, they live from fifteen to seventeen years.

There are several methods of taking them, as is well known; that by which they are taken in a net, with a setting dog, is the most pleasant, as well as

the most secure. The dog, as every body knows, is trained to this exercise, by a long course of education: by blows and caresses he is taught to lie down at the word of command; a partridge is shewn him, and he is then ordered to lie down; he is brought into the field, and when the sportsman perceives where the covey lies, he orders his dog to crouch: at length the dog, from habit, crouches wherever he approaches a covey; and this is the signal which the sportsman receives for unfolding and covering the birds with his net. A covey thus caught, is sometimes fed in a place proper for their reception; but they can never be thoroughly tamed, like the rest of our domestic poultry.

CHAP. X.

The Quail.

THE last of the poultry kind that I shall mention is the Quail; a bird much smaller than any of the former, being not above half the size of a partridge. The feathers of the head are black, edged with rusty brown; the breast is of a pale yellowish red, spotted with black; the feathers on the back are marked with lines of pale yellow, and the legs are of a pale hue. Except in the colours thus described, and the size, it every way resembles a partridge in shape, and, except that it is a bird of passage, all others of the poultry kind, in its habits and nature.

The quail is by all known to be a bird of passage; and yet if we consider its heavy manner of

flying, and its dearth of plumage, with respect to its corpulence, we shall be surprised how a bird so apparently ill qualified for migration, should take such extensive journeys. Nothing however is more certain: "When we sailed from Rhodes to Alexan-"dria," says Bellonius, "about autumn, many "quails, flying from the north to the south, were "taken in our ship; and sailing at spring-time the "contrary way, from the south to the north, I ob-"served them on their return, when many of them "were taken in the same manner." This account is confirmed by many others; who aver, that they chuse a north wind for these adventures; the south wind being very unfavourable, as it retards their flight, by moistening their plumage. They then fly two by two; continuing, when their way lies over land, to go faster by night than by day; and to fly very high, to avoid being surprised or set upon by birds of prey. However, it still remains a doubt whether quails take such long journies as Bellonius has made them perform. It is now asserted by some, that the quail only migrates from one province of a country to another. For instance, in England, they fly from the inland counties to those bordering on the sea, and continue there all the winter. If frost or snow drive them out of the stubble fields or marshes, they then retreat to the sea side, shelter themselves among the weeds, and live upon what is thrown up from the sea upon shore. Particularly in Essex, the time of their appearance upon the coasts of that country exactly coincides with their disappearance from the more internal parts of the kingdom; so that what has been said of their long flights, is probably not so well founded as is generally supposed.

These birds are much less prolific than the partridge; seldom laying more than six or seven whitish eggs, marked with ragged, rust-coloured spots. But their ardour in courtship yields scarcely to any other bird, as they are fierce and cruel at that season to each other, fighting most desperately, and (a punishment they richly deserve) being at that time very easily taken. Quail-fighting was a favourite amusement among the Athenians; they abstained from the flesh of this bird, deeming it unwholesome, as supposing that it fed upon the white hellebore; but they reared great numbers of them, for the pleasure of seeing them fight: and staked sums of money, as we do with regard to cocks, upon the success of the combat. Fashion, however, has at present changed with regard to this bird; we take no pleasure in its courage, but its flesh is considered as a very great delicacy.

Quails are easily caught by a call: the fowler, early in the morning, having spread his net, hides himself under it, among the corn: he then imitates the voice of the female, with his quail-pipe, which the cock hearing, approaches with the utmost assiduity; when he has got under the net, the fowler then discovers himself, and terrifies the quail, who attempting to get away, entangles himself the more in the net, and is taken. The quail may thus very well serve to illustrate the old adage, That every passion, carried to an inordinate excess, will at last lead to ruin.

CHAP. XI.

[*The Trumpeter.*

IN this place it may be proper to mention this curious bird, as it seems, both in its formation and manners, to approach nearest to the poultry kind. It is a native of the dry mountainous forests of South America; it is about the size of a large fowl. The general plumage of its body is black, with the fore part of the neck and upper part of the breast of a fine glossy changeable green. The bill is yellowish green, moderately long, with the upper mandible a little convex. The legs are greenish, naked and scaly a little above the knees, with three toes placed before and one behind.

The Trumpeter, so called from the singular noise it makes, is easily domesticated, and discovers a great degree of attachment to those who take notice of and feed it. When bred in the house, it loads its master with caresses, and follows him up and down like a dog: and if it takes a dislike to any person, it will pursue them to a great distance biting their legs, and exhibiting every mark of displeasure. M. Vosmaer relates, that he reared one himself, and had frequent opportunities of experiencing its affection. "When I opened its cage," says he, "in the morning, the kind animal hopped round me, expanding both its wings, and trumpeting, as if to wish me good morning. He shewed equal attention, when I went out and returned; for no sooner did he perceive me at a distance, than he ran to meet me; and even when I happened to be in

a boat, and set my foot on shore, he welcomed me with the same compliments, which he reserved for me alone, and never bestowed upon others." So jealous is he of securing the whole attentions of his master, that when he follows him into a room, he immediately drives away all the dogs and cats from the room, and even bites the legs of the attendants if they come near him. It has likewise a habit of following people through the streets, and out of the town; even those whom they have never seen before: and so difficult is it to get rid of these troublesome attendants, that if a person enters a house, they will wait his return, and again join him and pursue him with their clamorous noise, after an interval of some hours. If a person, to escape from them, take to his heels, the birds will likewise set out running, and as their motion is quick, they always get before him; and when the persecuted fugitive stops, they will stop also. The sound they utter has been likened to the doleful noise made by a glass trumpet which the Dutch bakers use, to inform their customers when the bread comes out of the oven. In a state of nature, they associate in numerous flocks, feed on wild fruits, and walk and run with great swiftness.]

OF

BIRDS

OF THE

PIE KIND.

PART III.

CHAP. I.

Birds of the Pie Kind.

IN marshalling our army of the feathered creation, we have placed in the van a race of birds long bred to war, and whose passion is slaughter; in the centre we have placed the slow and heavy laden, that are usually brought into the field to be destroyed; we now come to a kind of light infantry, that partake something of the spirit of the two former, and yet belonging to neither. In this class we must be content to marshal a numerous irregular tribe, variously armed, with different pursuits, appetites and manners; not formidably formed for war, and yet generally delighting in mischief; not slowly and usefully obedient, and yet without any professed enmity to the rest of their fellow-tenants of air.

To speak without metaphor, under this class of birds we may arrange all that noisy, restless, chattering, teizing tribe, that lies between the hen and the thrush, that, from the size of the raven down to that of the wood-pecker, flutter round our habitations, and, rather with the spirit of pilferers than of robbers, make free with the fruits of human industry.

Of all the other classes, this seems to be that which the least contributes to furnish out the pleasures or supply the necessities of man. The falcon hunts for him; the poultry tribe supplies him with luxurious food: and the little sparrow race delight him with the melody of their warblings. The crane kind make a studied variety in his entertainments;

and the class of ducks are not only many of them delicate in their flesh, but extremely useful for their feathers. But in the class of the pie kind there are few except the pigeon that are any way useful. They serve rather to teize man than to assist or amuse him. Like faithless servants, they are fond of his neighbourhood, because they mostly live by his labour; but their chief study is what they can plunder in his absence, while their deaths make him no atonement for their depredation.

But though, with respect to man, this whole class is rather noxious than beneficial; though he may consider them in this light, as false, noisy, troublesome neighbours, yet, with respect to each other, no class of birds are so ingenious, so active, or so well fitted for society. Could we suppose a kind of morality among birds, we should find that these are by far the most industrious, the most faithful, the most constant, and the most connubial. The rapacious kinds drive out their young before they are fit to struggle with adversity; but the pie kind cherish their young to the last. The poultry class, are faithless and promiscuous in their courtship; but these live in pairs, and their attachments are wholly confined to each other. The sparrow kind frequently overleap the bounds of Nature, and make illicit varieties; but these never. They live in harmony with each other; every species is true to its kind, and transmits an unpolluted race to posterity.

As other kinds build in rocks or upon the ground, the chief place where these build is in trees or bushes; the male takes his share in the labours of building the nest, and often relieves his mate in the duties of incubation. Both take this office by turns;

and when the young are excluded, both are equally active in making them an ample provision.

They sometimes live in societies; and in these there are general laws observed, and a kind of republican form of government established among them. They watch not only for the general safety, but for that of every other bird of the grove. How often have we seen a fowler, stealing in upon a flock of ducks or wild geese, disturbed by the alarming note of a crow or a magpie! its single voice gave the whole thoughtless tribe warning, and taught them in good time to look to their safety.

Nor are these birds less remarkable for their instincts than their capacity for instruction. There is an apparent cunning or archness in the look of the whole tribe; and I have seen crows and ravens taught to fetch and carry with the docility of a spaniel. Indeed, it is often an exercise that without teaching all this tribe are but too fond of. Every body knows what a passion they have for shining substances, and such toys as some of us put a value upon. A whole family has been alarmed at the loss of a ring; every servant has been accused, and every creature in the house, conscious of their own innocence, suspected each other, when, to the utter surprize of all, it has been found in the nest of a tame magpie or a jack-daw that nobody had ever thought of.

However, as this class is very numerous, it is not to be supposed that the manners are alike in all. Some, such as the pigeon, are gentle and serviceable to man; others are noxious, capricious, and noisy. In a few general characters they all agree; namely, in having hoarse voices, slight active bodies and a

facility of flight, that baffles even the boldest of the rapacious kinds in the pursuit. I will begin with those birds which most properly may be said to belong to this class, and go on till I finish with the pigeon, an harmless bird, that resembles this tribe in little else except their size, and that seems to be the shade uniting the pie and the sparrow kind into one general picture.

It is not to be expected that in this sketch of the great magazine of Nature we can stop singly to contemplate every object. To describe the number that offers would be tedious, and the similitude that one bears another would make the history disgusting. As an historian in relating the actions of some noble people does not stop to give the character of every private man in the army, but only of such as have been distinguished by their conduct, courage, or treachery; so should the historian of Nature only seize upon the most striking objects before him; and, having given one common account of the most remarkable, refer the peculiarities of the rest to their general description.

CHAP. II.

Of the Raven, the Crow, and their Affinities.

THE Raven, the Carrion-Crow, and the Rook, are birds so well known, that a long description would but obscure our ideas of them. The raven is the largest of the three, and distinguished from the rest not only by his size, but by his bill being

somewhat more hooked than that of the rest. As for the carrion-crow and the rook, they so strongly resemble each other, both in make and size, that they are not easily distinguished asunder. The chief difference to be found between them lies in the bill of the rook; which, by frequently being thrust into the ground to fetch out grubs and earth-worms, is bare of feathers as far as the eyes, and appears of a whitish colour. It differs also in the purple splendour or gloss of its feathers, which in the carrion-crow are of a more dirty black. Nor is it amiss to make these distinctions, as the rook has but too frequently suffered for its similitude to the carrion-crow; and thus an harmless bird, that feeds only upon insects and corn, has been destroyed for another that feeds upon carrion, and is often destructive among young poultry.

The manners of the raven and the carrion-crow are exactly similar; they both feed upon carrion; they fly only in pairs; and will destroy other birds, if they can take them by surprise. But it is very different with the rook, the daw, and the Cornish chough, which may be all ranked in this order. They are sociable and harmless; they live only upon insects and grain; and wherever they are, instead of injuring other birds, they seem centinels for the whole feathered creation. It will be proper, therefore, to describe these two sorts according to their respective appetites, as they have nothing in common but the very strong similitude they bear to each other in their colour and formation.

The raven is a bird found in every region of the world: strong and hardy, he is uninfluenced by the changes of the weather; and when other birds seem

numbered with the cold, or pining with famine, the raven is active and healthy, busily employed in prowling for prey, or sporting in the coldest atmosphere. As the heats at the line do not oppress him, so he bears the cold of the polar countries with equal indifference. He is sometimes indeed seen milk white, and this may probably be the effect of the rigorous climates of the north. It is most likely that this change is wrought upon him as upon most other animals in that part of the world, where their robes, particularly in winter, assume the colour of the country they inhabit. As in old age, when the natural heat decays, the hair grows grey, and at last white, so among these animals the cold of the climate may produce a similar languishment of colour, and may shut up those pores that conveyed the tincturing fluids to the extremest parts of the body.

However this may be, white ravens are often shown among us, which, I have heard some say, are rendered thus by art; and this we could readily suppose if they were as easily changed in their colour as they are altered in their habits and dispositions. A raven may be reclaimed to almost every purpose to which birds can be converted. He may be trained up for fowling like an hawk; he may be taught to fetch and carry like a spaniel; he may be taught to speak like a parrot: but the most extraordinary of all is, that he can be taught to sing like a man. I have heard a raven sing the Black Joke with great distinctness, truth, and humour*.

* [At the seat of the earl of Aylesbury in Wiltshire, a tame raven, that had been taught to speak, used to ramble about in the park: there he was commonly attended and beset with crows, rooks

Indeed, when the raven is taken as a domestic, he has many qualities that render him extremely amusing. Busy, inquisitive, and impudent, he goes every where, affronts and drives off the dogs, plays his pranks on the poultry, and is particularly assiduous in cultivating the good will of the cook-maid, who seems to be the favourite of the family. But then, with the amusing qualities of a favourite, he often also has the vices and defects. He is a glutton by nature, and a thief by habit. He does not confine himself to petty depredations on the pantry or the larder; he soars at more magnificent plunder; at spoils that he can neither exhibit nor enjoy; but which, like a miser, he rests satisfied with having the satisfaction of sometimes visiting and contemplating in secret. A piece of money, a tea-spoon, or a ring, are always tempting baits to his avarice; these he will slily seize upon, and if not watched will carry to his favourite hole.

In his wild state, the raven is an active and greedy plunderer. Nothing comes amiss to him; whether his prey be living or long dead it is all the same, he falls to with a voracious appetite; and when he has gorged himself, flies to acquaint his fellows that they may participate of the spoil. If the carcase be already in the possession of some more powerful animal, a wolf, a fox, or a dog, the raven sits at a little distance, content to continue an humble spectator till they have done. If

and others of his inquisitive tribe. When a considerable number of these were collected round him, he would lift up his head, and with a hoarse and hollow voice shout out the word Holla! This would instantly put to flight and disperse his sable brethren; while the raven seemed to enjoy the fright he had occasioned.]

in his flights he perceives no hopes of carrion, and his scent is so exquisite that he can smell it at a vast distance, he then contents himself with more unsavoury food, fruits, insects, and the accidental desert of a dunghill.

This bird chiefly builds its nest in trees, and lays five or six eggs of a pale green colour, marked with small brownish spots. They live sometimes in pairs, and sometimes they frequent in great numbers the neighbourhood of populous cities, where they are useful in devouring those carcases that would otherwise putrefy and infect the air. They build in high trees or old towers, in the beginning of March with us in England; and sometimes sooner, as the spring is more or less advanced for the season. But it is not always near towns that they fix their retreats: they often build in unfrequented places, and drive all other birds from their vicinity. They will not permit even their young to keep in the same district, but drive them off when they are sufficiently able to shift for themselves. Martin in his description of the Western Isles, avers that there are three little islands among the number which are occupied by a pair of ravens each, that drive off all other birds with great cries and impetuosity.

Notwithstanding the injury these birds do in picking out the eyes of sheep and lambs, when they find them sick and helpless, a vulgar respect is paid them; as being the birds that fed the prophet Elijah in the wilderness. This prepossession in favour of the raven is of very ancient date, as the Romans themselves, who thought the bird ominous, paid it, from motives of fear, the most profound veneration. One of these that had been kept in the temple of

Castor, as Pliny informs us, flew down into the shop of a taylor, who took much delight in the visits of his new acquaintance. He taught the bird several tricks: but particularly to pronounce the names of the emperor Tiberius and the whole royal family. The taylor was beginning to grow rich by those who came to see this wonderful raven, till an envious neighbour, displeased at the taylor's success, killed the bird, and deprived the taylor of his future hopes of fortune. The Romans, however, took the poor taylor's part; they punished the man who offered the injury, and gave the raven all the honours of a magnificent interment.

Birds in general live longer than quadrupeds; and the raven is said to be one of the most long lived of the number. Hesiod asserts that a raven will live nine times as long as a man; but though this is fabulous, it is certain that some of them have been known to live near an hundred years. This animal seems possessed of those qualities that generally produce longevity, a good appetite, and great exercise. In clear weather, the ravens fly in pairs to a great height, making a deep loud noise, different from that of their usual croaking.

The carrion-crow resembles the raven in its appetites, its laying, and manner of bringing up its young. It only differs in being less bold, less docile, and less favoured by mankind.

The rook leads the way in another, but a more harmless train, that have no carnivorous appetites, but only feed upon insects and corn. The Royston crow is about the size of the two former. The breast, belly, back, and upper part of the neck, being of a pale ash-colour; the head and wings glossed over

with a fine blue. He is a bird of passage, visiting this kingdom in the beginning of winter, and leaving it in the spring. He breeds, however, in different parts of the British dominions, and his nest is common enough in trees in Ireland. The jack-daw is black, like all the former, but ash-coloured on the breast and belly. He is not above the size of a pigeon. He is docile and loquacious. His head is large for the size of his body, which, as has been remarked, argues him ingenious and crafty. He builds in steeples, old castles, and high rocks, laying five or six eggs in a season. The Cornish chough is like a jackdaw, but bigger, and almost the size of a crow. The bill, feet and legs are like those of a jack-daw, but of a red colour; and the plumage is black all over. It frequents rocks, old castles, and churches, by the sea-side, like the daw; and with the same noisy assiduity. It is only seen along the western coasts of England. These are birds very similar in their manners, feeding on grain, and insects, living in society, and often suffering general castigation from the flock for the good of the community.

The rook, as is well known, builds in woods and forests in the neighbourhood of man, and sometimes makes choice of groves in the very midst of cities for the place of its retreat and security. In these it establishes a kind of legal constitution, by which all intruders are excluded from coming to live among them, and none suffered to build but acknowleged natives of the place. I have often amused myself with observing their plan of policy from my window in the Temple, that looks upon a grove where they have made a colony in the midst

of the city. At the commencement of spring, the rookery, which during the continuance of winter seemed to have been deserted, or only guarded by about five or six, like old soldiers in a garrison, now begins to be once more frequented; and in a short time all the bustle and hurry of business is fairly commenced. Where these numbers resided during the winter is not easy to guess; perhaps in the trees of hedge-rows, to be nearer their food. In spring, however, they cultivate their native trees; and, in the places where they were themselves hatched, they prepare to propagate a future progeny.

They keep together in pairs; and when the offices of courtship are over, they prepare for making their nests and laying. The old inhabitants of the place are all already provided; the nest which served them for years before, with a little trimming and dressing, will serve very well again; the difficulty of nestling lies only upon the young ones who have no nest, and must therefore get up one as well as they can. But not only the materials are wanting, but also the place in which to fix it. Every part of a tree will not do for this purpose, as some branches may not be sufficiently forked; others may not be sufficiently strong; and still others may be too much exposed to the rockings of the wind. The male and female upon this occasion are, for some days, seen examining all the trees of the grove very attentively; and when they have fixed upon a branch that seems fit for their purpose, they continue to sit upon and observe it very sedulously for two or three days longer. The place being thus determined upon, they begin to gather the materials

for their nest; such as sticks and fibrous roots, which they regularly dispose in the most substantial manner. But here a new and unexpected obstacle arises. It often happens that the young couple have made choice of a place too near the mansion of an older pair, who do not chuse to be incommoded by such troublesome neighbours. A quarrel therefore instantly ensues; in which the old ones are always victorious.

The young couple, thus expelled, are obliged again to go through the fatigues of deliberating, examining, and chusing; and having taken care to keep their due distance, the nest begins again, and their industry deserves commendation. But their alacrity is often too great in the beginning; they soon grow weary of bringing the materials of their nest from distant places; and they very easily perceive that sticks may be provided nearer home, with less honesty indeed, but some degree of address. Away they go, therefore, to pilfer as fast as they can; and wherever they see a nest unguarded, they take care to rob it of the very choicest sticks of which it is composed. But these thefts never go unpunished; and probably upon complaint being made there is a general punishment inflicted. I have seen eight or ten rooks come upon such occasions, and setting upon the new nest of the young couple all at once, tear it in pieces in a moment.

At length, therefore, the young pair find the necessity of going more regularly and honestly to work. While one flies to fetch the materials, the other sits upon the tree to guard it; and thus in the space of three or four days, with a skirmish now and then between, the pair have fitted up a commodious nest,

composed of sticks without, and of fibrous roots and long grass within. From the instant the female begins to lay, all hostilities are at an end; not one of the whole grove, that a little before treated her so rudely, will now venture to molest her; so that she brings forth her brood with patient tranquillity. Such is the severity with which even native rooks are treated by each other; but if a foreign rook should attempt to make himself a denizen of their society, he would meet with no favour; the whole grove would at once be up in arms against him, and expel him without mercy*.

In some countries these birds are considered as a benefit, in others as a nuisance: their chief food is the worm of the dorbeetle and corn; thus they may

* [Mr. Hutchinson, in his history of Cumberland, relates a remarkable anecdote of this sagacious community, which occurred at the seat of Daniel Wilson Esq. in Westmoreland.

There were two groves adjoining to the park; one of which had for many years been the annual resort of a number of herons; and the other contained a large rookery. For a long time these two tribes lived peaceably together: but in the spring of the year 1775, the trees of the heronry were cut down, and the young brood perished by the fall of the timber. The parent birds, not willing to be driven from their ancient abode, endeavoured to effect a settlement in the rookery. The Rooks made an obstinate resistance; but after a desperate contest, in the course of which many of the Rooks and some of the Herons lost their lives, the latter at last succeeded in obtaining possession of some of the trees; and that very spring built their nests afresh. The next season a similar conflict took place; which, like the former, ended in the victory of the Herons over the Rooks: since this time, peace seems to have been agreed upon between them: the Rooks have relinquished part of the grove to the Herons, to which part alone they confine themselves; and the two communities appear to live together in as much harmony as before the dispute.]

be said to do as much service by destroying that noxious insect, as they do injury by consuming the produce of the husbandman's industry.

To this tribe of the crow-kind, some foreign sorts might be added: I will take notice only of one, which, from the extraordinary size and fashion of its bill, must not be passed in silence. This is the Calao, or horned Indian raven, which exceeds the common raven in size, and habits of depredation. But what he differs in from all other birds is the beak, which, by its length and curvature at the end, appears designed for rapine; but then it has a kind of horn standing out from the top, which looks somewhat like a second bill, and gives this bird, otherwise fierce and ugly, a very formidable appearance. The horn springs out of the forehead, and grows to the upper part of the bill, being of great bulk; so that near the forehead it is four inches broad, not unlike the horn of the rhinoceros, but more crooked at the tip. Were the body of the bird answerable in size to the head, the calao would exceed in magnitude even the vulture or the eagle. But the head and beak are out of all proportion, the body being not much larger than that of an hen. Yet even here there are varieties; for in such of those birds as come from different parts of Africa, the body is proportionable to the beak; in such as come from the Molucca Islands, the beak bears no proportion to the body. Of what use this extraordinary excrescence is to the bird, is not easy to determine; it lives, like others of its kind, upon carrion, and seldom has a living enemy to cope with: Nature seems to sport in the production of many animals, as if she were willing to exhibit instances as well of variety as œconomy in their formation.

CHAP. III.

Of the Magpie, and its Affinities.

THERE are such a variety of birds that may be distributed under this head, that we must not expect very precise ideas of any. To have a straight strong bill, legs formed for hopping, a body of about the size of a magpie, and party-coloured plumage, are the only marks by which I must be contented to distinguish this numerous fantastic tribe, that add to the beauty, though not to the harmony of our landscapes. In fact, their chattering every where disturbs the melody of the lesser warblers; and their noisy courtship not a little damps the song of the linnet and the nightingale.

However, we have very few of this kind in our woods, compared to those in the neighbourhood of the line. There they not only paint the scene with the beauty and the variety of their plumage, but stun the ear with their vociferation. In those luxurious forests, the singing birds are scarcely ever heard, but a hundred varieties of the pie, the jay, the roller, the chatterer, and the toucan, are continually in motion, and with their illusive mockeries disturb or divert the spectator, as he happens to be disposed.

The Magpie is the chief of this kind with us, and is too well known to need a description. Indeed, were its other accomplishments equal to its beauty, few birds could be put in competition. Its black, its white, its green and purple, with the rich and gilded combination of the glosses on its tail, are as

fine as any that adorn the most beautiful of the feathered tribe. But it has too many of the qualities of a beau, to depreciate these natural perfections: vain, restless, loud, and quarrelsome, it is an unwelcome intruder every where; and never misses an opportunity, when it finds one, of doing mischief.

The magpie bears a great resemblance to the butcher-bird in its bill, which has a sharp process near the end of the upper chap, as well as in the shortness of its wings, and the form of the tail, each feather shortening from the two middlemost. But it agrees still more in its food, living not only upon worms and insects, but also upon small birds when they can be seized. A wounded lark, or a young chicken separated from the hen, are sure plunder; and the magpie will even sometimes set upon and strike a black-bird.

The same insolence prompts it to teize the largest animals when its insults can be offered with secucurity. They often are seen perched upon the back of an ox or a sheep, pecking up the insects to be found there, chattering and tormenting the poor animal at the same time, and stretching out their necks for combat, if the beast turns its head backward to reprehend them. They seek out also the nests of birds; and, if the parent escapes, the eggs make up for the deficiency: the thrush and the black-bird are but too frequently robbed by this assassin, and this in some measure causes their scarcity.

No food seems to come amiss to this bird; it shares with ravens in their carrion, with rooks in their grain, and with the cuckoo in birds eggs: but is seems possessed of a providence seldom usual

with gluttons; for when it is satisfied for the present, it lays up the remainder of the feast for another occasion. It will even in a tame state hide its food when it has done eating, and after a time return to the secret hoard with renewed appetite and vociferation.

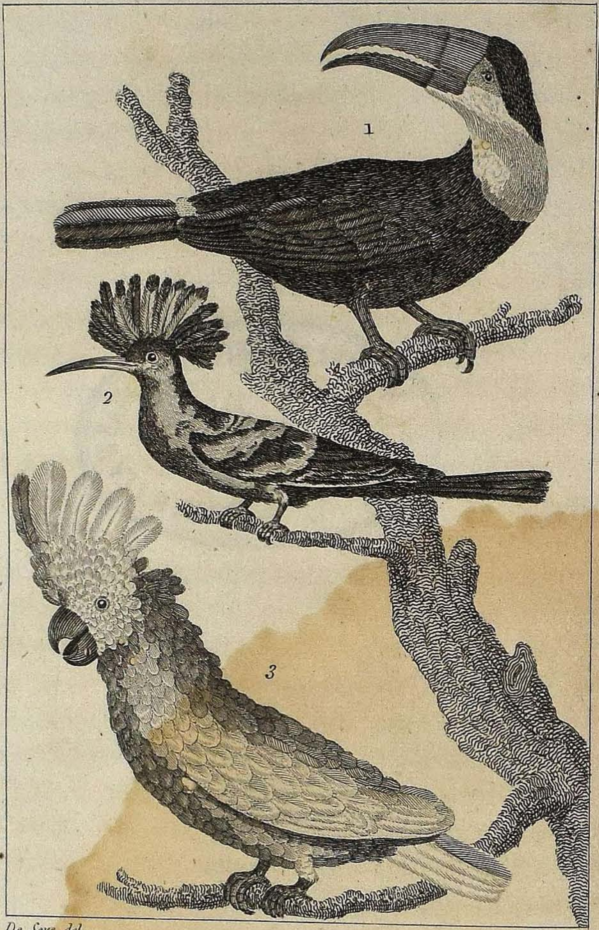
In all its habits it discovers a degree of instinct unusual to other birds. Its nest is not less remarkable for the manner in which it is composed than for the place the magpie takes to build it in. The nest is usually placed, conspicuous enough, either in the middle of some hawthorn bush, or on the top of some high tree. The place, however, is always found difficult of access; for the tree pitched upon usually grows in some thick hedge-row, fenced by brambles at the root; or sometimes one of the higher bushes is fixed upon for the purpose. When the place is thus chosen as inaccessible as possible to men, the next care is to fence the nest above, so as to defend it from all the various enemies of air. The kite, the crow, and the sparrow-hawk, are to be guarded against; as their nests have been sometimes plundered by the magpie, so it is reasonably feared that they will take the first opportunity to retaliate. To prevent this, the magpie's nest is built with surprising labour and ingenuity.

The body of the nest is composed of hawthorn branches, the thorns sticking outward, but well united together by their mutual insertions. Within it is lined with fibrous roots, wool, and long grass, and then nicely plaistered all round with mud and clay. The body of the nest being thus made firm and commodious, the next work is to make the canopy which is to defend it above. This is composed

of the sharpest thorns, wove together in such a manner as to deny all entrance except at the door, which is just large enough to permit egress and regress to the owners. In this fortress the male and female hatch and bring up their brood with security, sheltered from all attacks but those of the climbing school-boy, who often finds his torn and bloody hands too dear a price for the eggs or the young ones. The magpie lays six or seven eggs, of a pale green colour, spotted with brown.

This bird, in its domestic state, preserves its natural character with strict propriety. The same noisy, mischievous habits attend it to the cage that marked it in the woods; and being more cunning, so it is also a more docile bird than any other taken into keeping. Those who are desirous of teaching it to speak, have a foolish custom of cutting its tongue, which only puts the poor animal to pain, without improving its speech in the smallest degree. Its speaking is sometimes very distinct; but its sounds are too thin and sharp to be an exact imitation of the human voice, which the hoarse raven and parrot can counterfeit more exactly.

To this tribe we may refer the Jay, which is one of the most beautiful of the British birds. The forehead is white, streaked with black; the head is covered with very long feathers, which it can erect into a crest at pleasure; the whole neck, back, breast, and belly are of a faint purple, dashed with grey; the wings are most beautifully barred with a lovely blue, black, and white; the tail is black, and the feet of a pale brown. Like the magpie, it feeds upon fruits, will kill small birds, and is extremely docile.



De Seve del. Warner sc.

1. The Toucan.

2. The Huppoo.

3 The Cockatoo.

The Chatterer also, which is a native of Germany, may be placed in this rank; and is somewhat less than the former. It is variegated with a beautiful mixture of colours; red, ash-colour, chesnut, and yellow: but what distinguishes it from all other birds, are the horny appendages from the tips of seven of the lesser quill feathers, which stand bare of beards, and have the colour and gloss of the best red sealing-wax.

The Roller is not less beautiful than any of the former. The breast and belly are blue; the head green; and the wings variegated with blue, black, and white. But it may be distinguished from all others by a sort of naked turbercles or warts near the eyes, which still farther contribute to increase its beauty.

To this class may be added a numerous list from all the tropical forests of the east and west; where the birds are remarkable for discordant voices and brilliant plumage. I will fix only upon one, which is the most singular of all the feathered creation.

This is the Toucan, a bird of the pie kind, whose bill is nearly as large as the rest of its whole body.

Of this extraordinary bird there are four or five varieties. I will only describe the red beaked toucan; and as the figure of this bird makes the principal part of its history, I will follow Edwards through all the minutiæ of its singular conformation. It is about the size of and shaped like a jack-daw, with a large head to support its monstrous bill: this bill, from the angles of the mouth to its point, is six inches and an half; and its breadth, in the thickest part, is a little more than two. Its thick-

ness near the head, is one inch and a quarter; and it is a little rounded along the top of the upper chap, the under side being round also; the whole of the bill extremely slight, and a little thicker than parchment. The upper chap is of a bright yellow, except on each side, which is of a fine scarlet colour; as is also the lower chap, except at the base, which is purple. Between the head and the bill there is a black line of separation all round the base of the bill; in the upper part of which the nostrils are placed, and are almost covered with feathers; which has occasioned some writers to say that the toucan has no nostrils. Round the eyes, on each side of the head, is a space of blueish skin, void of feathers, above which the head is black, except a white spot on each side joining to the base of the upper chap. The hinder part of the neck, the back, wings, tail, belly, and thighs, are black. The under side of the head, throat, and the beginning of the breast, are white. Between the white on the breast, and the black on the belly, is a space of red feathers, in the form of a new moon, with its horns upwards. The legs, feet and claws, are of an ash-colour; and the toes stand like those of parrots, two before, and two behind.

It is reported by travellers, that this bird, though furnished with so formidable a beak, is harmless and gentle, being so easily made tame, as to sit and hatch its young in houses. It feeds chiefly upon pepper, which it devours very greedily, gorging itself in such a manner, that it voids it crude and unconcocted. This, however, is no objection to the natives from using it again; they even prefer it before that pepper which is fresh gathered from the tree:

and seem persuaded that the strength and heat of the pepper is qualified by the bird, and that all its noxious qualities are thus exhausted.

Whatever be the truth of this report, nothing is more certain than that the toucan lives only upon a vegetable diet; and in a domestic state, to which it is frequently brought in the warm countries where it is bred, it is seen to prefer such food to all other. Pozzo, who bred one tame, asserts, that it leaped up and down, wagged the tail, and cried with a voice resembling that of a magpie. It fed upon the same things that parrots do; but was most greedy of grapes, which being plucked off one by one, and thrown into the air, it would most dexterously catch before they fell to the ground. Its bill, he adds, was hollow, and upon that account very light, so that it had but little strength in so apparently formidable a weapon: nor could it peck or strike smartly therewith. But its tongue seemed to assist the efforts of this unweildy machine: it was long, thin and flat, not unlike one of the feathers on the neck of a dunghill cock; this it moved up and down; and often extended five or six inches from the bill. It was of a flesh-colour, and very remarkably fringed on each side with very small filaments, exactly resembling a feather.

It is probable that this long tongue has greater strength than the thin hollow beak that contains it. It is likely that the beak is only a kind of sheath for this peculiar instrument, used by the toucan, not only in making itself a nest, but also in obtaining its provision. Nothing is more certain, than that this bird builds its nest in holes of trees, which have been previously scooped out for this purpose; and it

is not very likely that so feeble a bill could be very serviceable in working upon such hard materials.

Be this as it will, there is no bird secures its young better from external injury than the toucan. It has not only birds, men, and serpents to guard against, but a numerous tribe of monkies, still more prying, mischievous and hungry than all the rest. The toucan, however, scoops out its nest into the hollow of some tree, leaving only a hole large enough to go in and out at. There it sits, with its great beak, guarding the entrance; and if the monkey ventures to offer a visit of curiosity, the toucan gives him such a welcome, that he presently thinks proper to pack off, and is glad to escape with safety.

This bird is only found in the warm climates of South America, where it is in great request, both for the delicacy of its flesh, which is tender and nourishing, and for the beauty of its plumage, particularly the feathers of the breast. The skin of this part the Indians pluck off, and, when dry, glue to their cheeks; and this they consider as an irresistible addition to their beauty.

CHAP. IV.

Of the Wood-pecker, and its Affinities.

WE come now to the numerous tribe of Wood-peckers; a class easily distinguishable from all others, both for their peculiar formation, their method of procuring food, and their manner of providing a place of safety for their young. Indeed, no

other class of birds seems more immediately formed for the method of life they pursue, being fitted by nature, at all points, for the peculiarity of their condition. They live chiefly upon the insects contained in the body of trees; and for this purpose are furnished with a straight, hard, strong, angular and sharp bill, made for piercing and boring. They have a tongue of a very great length; round, ending in a sharp, stiff, bony thorn, dentated on each side, to strike ants and insects when dislodged from their cells. Their legs are short and strong, for the purposes of climbing. Their toes stand two forward, and two backward; which is particularly serviceable in holding by branches of trees. They have hard stiff tails, to lean upon when climbing. They feed only upon insects, and want that intestine, which anatomists call the cæcum; a circumstance peculiar to this tribe only.

Of this bird there are many kinds, and many varieties in each kind. They form large colonies in the forests of every part of the world. They differ in size, colour and appearance; and agree only in the marks above-mentioned, or, in those habits which result from so peculiar a conformation. Instead therefore, of descending into a minute discrimination of every species, let us take one for a pattern, to which all the rest will be found to bear the strongest affinity. Words can but feebly describe the plumage of a bird; but it is the province of history to enter into a detail of every animal's pursuits and occupations.

The Green Wood-spite or Wood-pecker is called the Rain Fowl in some parts of the country; because, when it makes a greater noise than ordinary,

it is supposed to foretel rain. It is about the size of a jay; the throat, breast, and belly are of a pale greenish colour; and the back, neck, and covert feathers of the wings, are green. But the tongue of this little animal makes its most distinguished characteristic, as it serves for its support and defence. As was said above, the wood-pecker feeds upon insects; and particularly on those which are lodged in the body of hollow or of rotting trees. The tongue is its instrument for killing and procuring this food; which cannot be found in great plenty. This is round, ending in a stiff, sharp, bony tip, dentated on both sides, like the beard of an arrow; and this it can dart out three or four inches from the bill, and draw in again at pleasure. Its prey is thus transfixed and drawn into the bill, which, when swallowed, the dart is again launched at fresh game. Nothing has employed the attention of the curious in this part of anatomy, more than the contrivance by which the tongue of this bird performs its functions with such great celerity. The tongue is drawn back into the bill by the help of two small round cartilages, fastened into the fore mentioned bony tip, and running along the length of the tongue. These cartilages, from the root of the tongue, take a circuit beyond the ears; and being reflected backwards to the crown of the head, make a large bow. The muscular, spongy flesh of the tongue, encloses these cartilages, like a sheath; and is so made, that it may be extended or contracted like a worm. The cartilages indeed have muscles accompanying them along their whole length backwards. But there is still another contrivance; for there is a broad muscle, joining the cartilages to the bones of the skull,

which, by contracting or dilating, forces the cartilages forward through the tongue, and then forces the tongue and all through the bill, to be employed for the animal's preservation, in piercing its prey.

Such is the instrument with which this bird is provided; and this the manner in which this instrument is employed. When a wood-pecker, by its natural sagacity, finds out a rotten hollow tree, where there are worms, ants eggs, or insects, it immediately prepares for its operations. Resting by its strong claws, and leaning on the thick feathers of its tail, it begins to bore with its sharp strong beak, until it discloses the whole internal habitation. Upon this, either through pleasure at the sight of its prey, or with a desire to alarm the insect colony, it sends forth a loud cry, which throws terror and confusion into the whole insect tribe. They creep hither and thither, seeking for safety; while the bird luxuriously feasts upon them at leisure, darting its tongue with unerring certainty, and devouring the whole brood.

The wood-pecker, however, does not confine its depredations solely to trees, but sometimes lights upon the ground, to try its fortune at an ant-hill. It is not so secure of prey there as in the former case, although the numbers are much greater. They lie generally too deep for the bird to come at them; and it is obliged to make up by stratagem the defect of power. The wood-pecker first goes to their hills, which it pecks, in order to call them abroad; it then thrusts out its long red tongue, which, being like a worm, and resembling their usual prey, the ants come out to settle upon, in great numbers;

however, the bird watching the properest opportunity, withdraws its tongue at a jerk, and devours the devourers. This stratagem it continues till it has alarmed their fears: or till it is quite satisfied.

As the wood-pecker is obliged to make holes in trees to procure food, so is it also to make cavities still larger to form its nest and to lay in. This is performed, as usual, with the bill; although some have affirmed that the animal uses its tongue, as a gimblet to bore with. But this is a mistake; and those that are curious, may often hear the noise of the bill making its way in large woods and forests. The wood-pecker chuses, however, for this purpose, trees that are decayed, or wood that is soft, like beech, elm, and poplar. In these, with very little trouble, it can make holes as exactly round as a mathematician could with compasses. One of these holes the bird generally chuses for its own use, to nestle, and bring up its young in; but as they are easily made, it is delicate in its choice, and often makes twenty before one is found fit to give entire satisfaction. Of those which it has made and deserted, other birds, not so good borers, and less delicate in their choice, take possession. The jay and the starling lay their eggs in these holes; and bats are now and then found in peaceable possession. Boys sometimes have thrust in their hands with certain hopes of plucking out a bird's egg; but, to their great mortification, have had their fingers bitten by a bat at the bottom.

The wood-pecker takes no care to line its nest with feathers or straw; its eggs are deposited in the hole, without any thing to keep them warm, except the heat of the parent's body. Their number is gene-

rally five or six; always white, oblong, and of a middle size. When the young are excluded, and before they leave the nest, they are adorned with a scarlet plumage under the throat, which adds to their beauty.

In our climate, this bird is contented with such a wainscoat habitation as has been described for its young; but in the warmer regions of Guinea and Brazil, they take a very different method to protect and hatch their nascent progeny. A traveller who walks into the forests of those countries, among the first strange objects that excite curiosity, is struck with the multitude of birds nests hanging at the extremity of almost every branch. Many other kinds of birds build in this manner; but the chief of them are of the wood-pecker kind; and indeed there is not, in the whole history of nature, a more singular instance of the sagacity of those little animals in protecting themselves against such enemies, as they have most occasion to fear. In cultivated countries, a great part of the caution of the feathered tribe is to hide or defend their nests from the invasions of man, as he is their most dreaded enemy. But in the depth of those remote and solitary forests, where man is but seldom seen, the little bird has nothing to apprehend from man. The parent is careless how much the nest is exposed to general notice; satisfied if it be out of the reach of those rapacious creatures that live by robbery and surprise. If the monkey or the snake can be guarded against, the bird has no other enemies to fear: for this purpose, its nest is built upon the depending points of the most outward branches of a tall tree, such as the banana or the plantane. On one of those immense trees, is seen

the most various and the most inimical assemblage of creatures that can be imagined. The top is inhabited by monkies of some particular tribe, that drive off all others; lower down twine about the great trunk numbers of the larger snakes, patiently waiting till some unwary animal comes within the sphere of their activity; and at the edges of the tree hang these artificial nests, in great abundance, inhabited by birds of the most delightful plumage.

The nest is usually formed in this manner; when the time of incubation approaches, they fly busily about, in quest of a kind of moss, called, by the English inhabitants of those countries, *old man's beard*. It is a fibrous substance, and not very unlike hair, which bears being moulded into any form, and suffers being glued together. This, therefore, the little wood-pecker, called by the natives of Brasil the Guirafemga, first glues by some viscous substance, gathered in the forest, to the extremest branch of a tree; then building downward, and still adding fresh materials to those already procured, a nest is formed, that depends, like a pouch, from the point of the branch; the hole to enter at, is on the side; and all the interior parts are lined with the finer fibres of the same substance, which compose the whole.

Such is the general contrivance of these hanging nests; which are made, by some other birds, with still superior art. A little bird of the Gros-beak kind, in the Phillipine Islands, makes its nest in such a manner that there is no opening but from the bottom. At the bottom the bird enters, and goes up through a funnel, like a chimney, till it comes to the

real door of the nest, which lies on one side, and only opens into this funnel*.

Some birds glue their nest to the leaf of the banana-tree, which makes two sides of their little habitation: while the other two are artificially composed by their own industry. But these, and all of the kind, are built with the same precautions to guard the young against the depredations of monkies and serpents, which abound in every tree. The nest hangs there, before the spoilers, a tempting object, which they can only gaze upon, while the bird flies in and out, without danger, or molestation, from so formidable a vicinity.

[In the interior of Africa, Mr. Paterson found a kind of Grosbeak, living together in large societies, and fabricating their nests under one common roof. This collection of nests, or rather aerial city, is generally built in one of those vast and spreading trees, growing in that uninhabited region. In one tree, he observes, there could not be less than from eight hundred to a thousand under one roof, which resembled that of a thatched house, and projected over the entrance of the nest below in a very singular manner. " The industry of these birds seems

[* This bird constructs a curious nest with the long fibres of plants and grass, and suspends it by a kind of cord nearly half an ell long, from the end of a slender branch of a tree, that it may be inaccessible to snakes: and secure from the intrusion of the numerous monkies which inhabit those regions. At the end of this cord, is a gourd-shaped nest, divided into three apartments; the first of which is occupied by the male, the second by the female, and the third contains the young: and in the first apartment, where the male keeps watch, is placed on one side a little tough clay, and on the top of this clay is fixed a glow-worm, to afford its inhabitants light in the night.]

almost equal to that of the bee. Throughout the day, they appear busily employed in carrying a fine species of grass; which is the principal material they employ for the purpose of erecting this extraordinary work, as well as for additions and repairs. Though my short stay in the country was not sufficient to satisfy me by ocular proof, that they added to their nests as they annually increased in numbers; still from the many trees which I have seen borne down by the weight, and others which I have observed with their boughs completely covered over, it would appear that this is really the case. When the tree, which is the support of this aerial city, is obliged to give way to the increase of weight, it is obvious that they are no longer protected, and are under the necessity of building in other trees. One of these deserted nests I had the curiosity to break down, to inform myself of the internal structure of it; and found it equally ingenious with that of the external. There are many entrances, each of which forms a regular street, with nests on both sides, at about two inches distance from each other. The grass with which they build is called the Boshman's grass; and I believe the seed of it to be their principal food; though on examining their nests, I found the wings and legs of different insects. From every appearance, the nest which I dissected had been inhabited for many years; and some parts of it were much more complete than others. This, therefore, I conceive to amount nearly to a proof, that the animals added to it at different times, as they found it necessary, from the increase of their family, or rather of the nation and community."

The Taylor Warbler, a native of the hotter parts of India, constructs a nest of wonderful ingenuity, by actually sewing together with vegetable fibres, the edges of one or more leaves, in order to form a convenient and secret repository for its young. In performing this it makes use of the bill as an awl, or needle, and performs its work with such dexterity, that it seems rather to be the effect of human art, than the uninstructed effort of an animal.]

CHAP. V.

Of the Bird of Paradise, and its Varieties.

THERE are few birds that have more deceived and puzzled the learned than this. Some have described it as an inhabitant of the air, living only upon the dew of heaven, and never resting below; others have acquiesced in the latter part of its history, but have given it flying insects to feed on. Some have asserted that it was without feet, and others have ranked it among the birds of prey.

The great beauty of this bird's plumage, and the deformity of its legs, seem to have given rise to most of these erroneous reports. The native savages of the Molucca Islands, of which it is an inhabitant, were very little studious of natural history; and perceiving the inclination the Europeans had for this bird, carefully cut off its legs before they brought it to market; thus concealing its

greatest deformity, they considered themselves entitled to rise in their demands when they offered it for sale. One deceit led on to another; the buyer, finding the bird without legs, naturally enquired after them; and the seller as naturally began to assert that it had none. Thus far the European was imposed upon by others; in all the others he imposed upon himself. Seeing so beautiful a bird without legs, he concluded that it could live only in air, where legs were unnecessary, The extraordinary splendour of its plumage assisted this deception; and as it had heavenly beauty, so it was asserted to have an heavenly residence. From thence its name, and all the false reports that have been propagated concerning it.

Error, however, is short-lived; and time has discovered that this bird not only has legs, but very large strong ones for its size. Credulity, when undeceived, runs into the opposite extreme, and soon after this harmless bird was branded with the character of being rapacious, of destroying all those of smaller size, and, from the amazing rapidity of its flight, as qualified peculiarly for extensive rapine. The real history of this pretty animal is at present tolerably well known; and it is found to be as harmless as it is beautiful.

There are two kinds of the Bird of Paradise; one about the size of a pigeon, which is more common; the other not much larger than a lark, which has been described more imperfectly. They are both sufficiently distinguished from all other birds, not only by the superior vivacity of their tints, but by the feathers of the tail, there being two long slender filaments, growing from the upper

part of the rump; these are longer than the bird's body, and bearded only at the end. By this mark the bird of paradise may be easily known, but still more easily by its gaudy livery, which being so very brilliant, demands to be minutely described.

This bird appears to the eye as large as a pigeon, though in reality the body is not much greater than that of a thrush. The tail, which is about six inches, is as long as the body; the wings are large, compared with the bird's other dimensions. The head, the throat, and the neck, are of a pale gold-colour. The base of the bill is surrounded with black feathers, as also the side of the head and throat, as soft as velvet, and changeable like those on the neck of a mallard. The hinder part of the head is of a shining green, mixed with gold. The body and wings are chiefly covered with beautiful brown, purple and gold feathers. The uppermost part of the tail-feathers are of a pale yellow, and those under them white, and longer than the former; for which reason the hinder part of the tail appears to be all white. But what chiefly excites curiosity are, the two long naked feathers abovementioned, which spring from the upper part of the rump above the tail, and which are usually about three feet long. These are bearded only at the beginning and the end; the whole shaft for above two feet nine inches being of a deep black,, while the feathered extremity is of a changeable colour, like the mallard's neck.

This bird, which for beauty exceeds all others of the pie kind, is a native of the Molucca Islands, but found in greatest numbers in that of Aro. There, in the delightful and spicy woods of the country, do

these beautiful creatures fly in large flocks; so that the groves which produce the richest spices produce the finest birds also. The inhabitants themselves are not insensible of the pleasure these afford, and give them the name of God's birds, as being superior to all others that he has made. They live in large flocks, and at night generally perch upon the same tree. They are called by some, the swallows of Ternate, from their rapid flight, and from their being continually on the wing in pursuit of insects, their usual prey.

As the country where they are bred has its tempestuous season, when rains and thunders continually disturb the atmosphere, these birds are then but seldom seen. It is thought that they then fly to other countries, where their food appears in greater abundance; for, like swallows, they have their stated times of return. In the beginning of the month of August, they are seen in great numbers flying together; and, as the inhabitants would have us believe, following their king, who is distinguished from the rest by the lustre of his plumage, and that respect and veneration which is paid him. In the evening they perch upon the highest trees of the forest, particularly one which bears a red berry, upon which they sometimes feed, when other food fails them. In what manner they breed, or what may be the number of their young, as yet remains for discovery.

The natives, who make a trade of killing and selling these birds to the Europeans, generally conceal themselves in the trees where they resort, and having covered themselves up from sight in a bower made of the branches, they shoot at the birds with

reedy arrows; and, as they assert, if they happen to kill the king, they then have a good chance for killing the greatest part of the flock. The chief marks by which they know the king is by the ends of the feathers in his tail, which have eyes like those of a peacock. When they have taken a number of these birds, their usual method is to gut them and cut off their legs; they then run a hot iron into the body, which dries up the internal moisture; and filling the cavity with salts and spices, they sell them to the Europeans for a perfect trifle.

CHAP. VI.

The Cuckoo, and its Varieties.

FROM a bird of which many fables have been reported, we pass to another that has not given less scope to fabulous invention. The note of the Cuckoo is known to all the world; the history and nature of the bird itself still remains in great obscurity. That it devours its parent; that it changes its nature with the season, and becomes a sparrow-hawk; were fables invented of this bird, and are now sufficiently refuted. But where it resides in winter, or how it provides for its supply during that season, still continues undiscovered.

This singular bird, which is somewhat less than a pigeon, shaped like a magpie, and of a greyish colour, is distinguished from all other birds, by its round prominent nostrils. Having disappeared all

the winter, it discovers itself in our country early in the spring, by its well known call. Its note is heard earlier or later as the season seems to be more or less forward, and the weather more or less inviting. From the chearful voice of this bird, the farmer may be instructed in the real advancement of the year. The fallibility of human calendars is but too well known; but from this bird's note the husbandman may be taught when to sow his most useful seeds, and do such work as depends upon a certain temperature of the air. These feathered guides come to us heaven-taught, and point out the true commencement of the season.

The cuckoo, that was silent some time after its appearance, begins at first feebly, and at very distant intervals, to give its call, which, as the summer advances, improves both in its frequency and loudness. This is an invitation to courtship, and used only by the male, who sits generally perched upon some dead tree, or bare bough, and repeats his song, which he loses as soon as the genial season is over. His note is pleasant though uniform; and, from an association of ideas, seldom occurs to the memory without reminding us of the sweets of summer. Custom too has affixed a more ludicrous association to this note; which, however, we that are bachelors need be in no pain about. This reproach seems to arise from this bird's making use of the bed or nest of another to deposit its own brood in.

However this may be, nothing is more certain than that the female makes no nest of her own. She repairs for that purpose to the nest of some other bird, generally the water-wagtail or hedge-sparrow, and having devoured the eggs of the

owner, lays her own in their place. She usually lays but one, which is speckled, and of the size of a blackbird's. This the fond foolish bird hatches with great assiduity, and, when excluded, finds no difference in the great ill-looking changeling from her own. To supply this voracious creature, the credulous nurse toils with unusual labour, no way sensible that she is feeding up an enemy to her race, and one of the most destructive robbers of her future progeny.

It was once doubted whether these birds were carnivorous; but Reaumur was at the pains of breeding up several, and found that they would not feed upon bread or corn; but flesh and insects were their favourite nourishment. He found it a very difficult task to teach them to peck; for he was obliged to feed them for a full month, after they were grown as big as the mother. Insects, however, seemed to be their peculiar food when young; for they devoured flesh by a kind of constraint, as it was always put into their mouths; but meal-worm insects they flew to, and swallowed of their own accord most greedily. Indeed, their gluttony is not to be wondered at, when we consider the capacity of their stomach, which is enormous, and reaches from the breast-bone to the vent. It is partly membranous, partly muscular, and of a prodigious capacity; yet still they are not to be supposed as birds of prey, for they have neither the strength nor the courage. On the contrary, they are naturally weak and fearful, as appears by their flying from small birds which every where pursue them. The young birds are brown mixed with

black; and in that state they have been described by some authors as old ones.

The cuckoo, when fledged and fitted for flight, follows its supposed parent but for a little time; its appetites for insect food increasing, as it finds no great chance for a supply in imitating its little instructor, it parts good friends, the step-child seldom offering any violence to its nurse. Nevertheless, all the little birds of the grove seems to consider the young cuckoo as an enemy, and revenge the cause of their kind by their repeated insults. They pursue it wherever it flies, and oblige it to take shelter in the thickest branches of some neighbouring tree. All the smaller birds form the train of its pursuers; but the wry-neck, in particular, is found the most active in the chace; and from thence it has been called by many the cuckoo's attendant and provider. But it is very far from following with a friendly intention; it only pursues as an insulter, or a spy, to warn all its little companions of the cuckoo's depredations.

Such are the manners of this bird while it continues to reside, or to be seen amongst us. But early, at the approach of winter, it totally disappears, and its passage can be traced to no other country. Some suppose that it lies hid in hollow trees; and others that it passes into warmer climates. Which of these opinions is true is very uncertain, as there are no facts related on either side that can be totally relied on. To support the opinion that they remain torpid during the winter, at home, Willughby introduces the following story, which he delivers upon the credit of another. "The servants of a gentle-"man, in the country, having stocked up, in one

" of their meadows, some old dry rotten willows, " though proper, on a certain occasion, to carry " them home. In heating a stove, two logs of " this timber were put into the furnace beneath, " and fire applied as usual. But soon, to the great " surprise of the family, was heard the voice of " a cuckoo, singing three times from under the " stove. Wondering at so extraordinary a cry in " winter time, the servants ran and drew the wil- " low logs from the furnace, and in the midst of " one of them saw something move: wherefore, " taking an ax, they opened the hole, and thrust- " ing in their hands, first they plucked out nothing " but feathers; afterwards they got hold of a living " animal; and this was the cuckoo, that had " waked so very opportunely for its own safe- " ty. It was, indeed," continues our historian, " brisk and lively, but wholly naked and bare " of feathers, and without any winter provision " in its hole. This cuckoo the boys kept two " years afterwards alive in the stove; but whether " it repaid them with a second song, the author of " the tale has not thought fit to inform us."

The most probable opinion on this subject is, that as quails and woodcocks shift their habitations in winter, so also does the cuckoo; but to what country it retires, or whether it has been ever seen on its journey, are questions that I am wholly incapable of resolving.

Of this bird there are many kinds in various parts of the world, not only differing in their colours but their size. Brisson makes not less than twenty-eight sorts of them; but what analogy they bear to our English cuckoo I will not take upon me to de-

termine. He talks of one, particularly of Brasil, as making a most horrible noise in the forests; which, as it should seem, must be a very different note from that by which our bird is distinguished at home.

[To Dr. Jenner, so well known for his discovery of the Cow-pock as a substitute for the small-pox, we are solely indebted for the complete developement of the manners of this curious bird. The cuckoo, soon after her arrival in this country, prepares to forward the great ends of nature in the propagation of her kind. But unlike all other birds, she provides no nest, and betrays no solicitude for the production or the safety of her young; but deposits her solitary egg in the nest of some other bird. This is done in that of the water-wagtail, titlark, yellow-hammer, green-linnet, whinchat, or hedge sparrow; but her greatest partiality is for the nest of the latter.

During the time that the hedge-sparrow is laying, the cuckoo contrives to leave her egg among the rest, abandoning it entirely to the future care of its foster-parent. This egg is hatched together with those of the owner of the nest, and the young intruder, not content to share the attentions of the old bird in common with her own progeny, actually shoves them out of the nest, where they are left to perish, either entangled in the bush that contains the nest, or on the ground under it.

On the 18th of June 1787, says this indefatigable enquirer, I examined the nest of a hedge-sparrow, which then contained a cuckoo's and three hedge-sparrow's eggs. On inspecting it the day following, the bird had hatched; but the nest

then contained only a young cuckoo and one hedge-sparrow. The nest was placed so near the extremity of a hedge, that I could distinctly see what was going forward in it; and to my great astonishment, saw the young cuckoo, though so lately hatched, in the act of turning out the young hedge-sparrow. The mode of accomplishing this was very curious. The little animal, with the assistance of its rump and wings, contrived to get the bird upon its back; and making a lodgement for its burthen, by elevating its elbows, clambered backward with it up the side of the nest, till it reached the top; where, resting for a moment, it threw off its load with a jerk, and quite disengaged it from the nest. It remained in this situation for a short time, feeling about with the extremities of its wings, as if to be convinced whether the business was properly executed, and then dropped into the nest again. With these, the extremities of its wings, I have often seen it examine as it were an egg and nestling, before it began its operations; and the nice sensibilities which these parts seem to possess, seemed sufficiently to compensate the want of sight, which as yet it was destitute of. I afterwards put in an egg; and this by a similar process was conveyed to the edge of the nest, and thrown out. These experiments I have since repeated several times, in different nests, and have always found the young cuckoo disposed to act in the same manner. In climbing up the nest, it sometimes drops its burthen, and thus is foiled in its endeavours; but after a little respite, the work is resumed and goes on almost incessantly till it is effected. The singularity of its shape is well adapted to these purposes; for differ-

ent from other newly-hatched birds, its back, from the scapulæ downwards, is very broad, with a considerable depression in the middle. This depression seems formed by nature, for the design of giving a more secure lodgement to the egg of the hedge-sparrow or its young one, when the young cuckoo is employed in removing either of them from the nest. When it is about twelve days old, this cavity is quite filled up, and then the back assumes the shape of nestling birds in general.

It sometimes happens that two cuckoo's eggs are deposited in the same nest, and then the young produced from one of them must inevitably perish. Two cuckoo's and one hedge-sparrow were hatched in the same nest, and one hedge sparrow's egg remained unhatched. In a few hours after, a contest began between the cuckoos for the possession of the nest, which continued undetermined till the next afternoon, when one of them, which was somewhat superior in size, turned out the other together with the young hedge-sparrow and the unhatched egg. The combatants alternately appeared to have the advantage, as each carried the other several times nearly to the top of the nest, and then sunk down again, oppressed by the weight of the burthen; till at length, after various efforts, the strongest prevailed, and was afterwards brought up by the hedge-sparrow.

The causes for these singularities, Dr. Jenner supposes to be chiefly the short stay of the bird in this country. The cuckoo's first appearance is about the 17th of April, and its egg is not ready for incubation till the middle of May. A fortnight is taken up by the sitting bird, in hatching the egg.

The young bird generally continues three weeks in the nest before it flies; and the foster-parents feed it more than five weeks after this period: so that if a cuckoo should be ready with an egg much sooner than the time pointed out, not a single nestling, even one of the earliest would be fit to provide for itself, before its parent would be instinctively directed to seek a new residence, and be thus compelled to abandon its young one: for old cuckoos take their leave of the country the first week in July.

The moroc or honey bird, is a cuckoo inhabiting the interior parts of Africa, of a smaller size than our cuckoo, and is remarkable for the singular instinct by which it is prompted to seek its food. Not only the Dutch and Hottentots, but likewise the quadruped called Rattel, are frequently conducted to wild bee hives by this bird, which, as it were, pilots them to the very spot. The honey being its favourite food, its own interests prompts it to be instrumental in robbing the hive, as some scraps are commonly left for its support. The morning and evening are its time of feeding, and it is then heard calling in a shrill tone, *cherr, cherr;* which the honey hunters carefully attend to as a summons to the chace. From time to time they answer with a soft whistle; which, the bird hearing, always continues its note. As soon as they are in sight of each other, the bird gradually flutters towards the place where the hive is situated, continually repeating its former call of *cherr, cherr;* nay, if it should happen to have gained a considerable way before the men, who may be easily hindered in the pursuit by rivers, bushes, or the like, it returns to them again and redoubles its note, as

it were in reproach of their inactivity. At last the bird is observed to hover for a few moments over a certain spot, and then silently retiring to a neighbouring bush or resting place, the hunters are sure of finding the bees-nest in that identical spot, whether it be in a tree or in the crevice of a rock, or, as is most commonly the case, in the earth. While the hunters are busy in taking the honey, the bird is seen looking on attentively to what is going forward, and waiting for its share of the spoil. The bee-hunters never fail to leave a small portion for their conductor; but commonly take care never to leave so much as would satisfy its hunger. The bird's appetite being whetted by this parsimony, it is obliged to commit a second treason, by discovering another bees-nest, in hopes of a better salary. The nearer the bird approaches the hidden hive, the more frequently it repeats its call, and seems the more impatient.

Dr. Sparrman, upon whose authority these singular facts rest, says he has had frequent opportunities of seeing this bird, and has been witness to the destruction of several republics of bees, by means of its treachery.]

CHAP. VII.

Of the Parrot, and its Affinities.

THE Parrot is the best known among us of all foreign birds, as it unites the greatest beauty with the greatest docility. Its voice also is more like a man's than that of any other; the raven is too hoarse, and the jay and magpie too shrill, to resemble the truth;

the parrot's note is of the true pitch, and capable of a number of modulations that even some of our orators might wish in vain to imitate.

The ease with which this bird is taught to speak, and the great number of words which it is capable of repeating, are no less surprising. We are assured, by a grave writer, that one of these was taught to repeat a whole sonnet from Petrarch: and that I may not be wanting in my instance, I have seen a parrot, belonging to a distiller, who had suffered pretty largely in his circumstances from an informer who lived opposite him, very ridiculously employed. This bird was taught to pronounce the ninth commandment, *Thou shalt not bear false witness against thy neighbour*, with a very clear, loud, articulate voice. The bird was generally placed in its cage over-against the informer's house, and delighted the whole neighbourhood with its persevering exhortations.

Willughby tells a story of a parrot, which is not so dull as those usually brought up when this bird's facility of talking happens to be the subject. "A "parrot belonging to king Henry the Seventh, "who then resided at Westminster, in his palace by "the river Thames, had learned to talk many words "from the passengers as they happened to take "water. One day, sporting on its perch, the poor "bird fell into the water, at the same time crying "out, as loud as he could, *A boat! twenty pound* "*for a boat!* A waterman who happened to be "near, hearing the cry, made to the place where "the parrot was floating, and taking him up re- "stored him to the king. As it seems the bird "was a favourite, the man insisted that he ought

"to have a reward rather equal to his services "than his trouble; and, as the parrot had cried "twenty pounds, he said the king was bound in "honour to grant it. The king at last agreed to "leave it to the parrot's own determination, which "the bird hearing, cried out, *Give the knave a "groat.*"

The parrot, which is so common as a foreign bird with us, is equally so as an indigenous bird in the climates where it is produced. The forests swarm with them; and the rook is not better known with us than the parrot in almost every part of the East and Western Indies. It is in vain that our naturalists have attempted to arrange the various species of this bird; new varieties daily offer to puzzle the system-maker, or to demonstrate the narrowness of his catalogues. Linnæus makes the number of its varieties amount to forty-seven; while Brisson doubles the number, and extends his catalogue to ninety-five. Perhaps even this list might be increased, were every accidental change of colour to be considered as constituting a new species. But, in fact, natural history gains little by these discoveries; and as its dominions are extended it becomes more barren. It is asserted by sensible travellers that the natives of Brasil can change the colour of a parrot's plumage by art. If this be true, and I am apt to believe the information, they can make new species at pleasure and thus cut out endless work for our nomenclators at home.

Those who usually bring these birds over, are content to make three or four distinctions, to which they give names; and with these distinctions I will content myself also. The large kind, which are of the

size of a raven, are called Maccaws; the next size are simply called Parrots; those which are entirely white are called Lories; and the lesser size of all are called Parakeets. The difference between even these is rather in the size than in any other peculiar conformation, as they are all formed alike, having toes two before and two behind for climbing and holding; strong hooked bills for breaking open nuts, and other hard substances on which they feed; and loud harsh voices, by which they fill their native woods with clamour.

But there are further peculiarities in their conformation; and first, their toes are contrived in a singular manner, which appears when they walk or climb, and when they are eating. For the first purpose they stretch two of their toes forward and two backward; but when they take their meat, and bring it to their mouths with their foot, they dextrously and nimbly turn the greater hind toe forward, so as to take a firmer grasp of the nut or the fruit they are going to feed on, standing all the while upon the other leg. Nor even do they present their food in the usual manner; for other animals turn their meat inwards to the mouth; but these, in a seemingly aukward position, turn their meat outwards, and thus hold the hardest nuts, as if in one hand, till with their bills they break the shell, and extract the kernel.

The bill is fashioned with still greater peculiarities; for the upper chap, as well as the lower, are both moveable. In most other birds the upper chap is connected, and makes but one piece with the skull; but in these, and in one or two species of the feathered tribe more, the upper chap is con-

nected to the bone of the head by a strong membrane placed on each side, that lifts and depresses it at pleasure. By this contrivance they can open their bills the wider; which is not a little useful, as the upper chap is so hooked and so over-hanging, that, if the lower chap only had motion, they could scarcely gape sufficiently to take any thing in for their nourishment.

Such are the uses of the beak and the toes when used separately, but they are often employed both together when the bird is exercised in climbing. As these birds cannot readily hop from bough to bough, their legs not being adapted for that purpose, they use both the beak and the feet: first catching hold with the beak, as if with a hook, then drawing up the legs and fastening them, then advancing the head and the beak again, and so putting forward the body and the feet alternately, till they attain the height they aspire to.

The tongue of this bird somewhat resembles that of a man; for which reason, some pretend that it is so well qualified to imitate the human speech; but the organs by which these sounds are articulated lie farther down in the throat, being performed by the great motion which the os hyoides has in these birds above others.

The parrot, though common enough in Europe, will not, however, breed here. The climate is too cold for its warm constitution; and though it bears our winter when arrived at maturity, yet it always seems sensible of its rigour, and loses both its spirit and appetite during the colder part of the season. It then becomes torpid and inactive, and seems quite changed from that bustling loquacious

animal which it appeared in its native forests, where it is almost ever upon the wing. Notwithstanding, the parrot lives even with us a considerable time, if it be properly attended to; and, indeed, it must be owned, that it employs but too great a part of some people's attention.

The extreme sagacity and docility of the bird may plead as the best excuse for those who spend whole hours in teaching their parrots to speak; and, indeed, the bird, on those occasions, seems the wisest animal of the two. It at first obstinately resists all instruction; but seems to be won by perseverance, makes a few attempts to imitate the first sounds, and when it has got one word distinct, all the succeeding come with greater facility. The bird generally learns most in those families where the master or mistress have the least to do; and becomes more expert, in proportion as its instructors are idly assiduous. In going through the towns of France some time since, I could not help observing how much plainer their parrots spoke than ours, and how very distinctly I understood their parrots speak French, when I could not understand our own, though they spoke my native language. I was at first for ascribing it to the different qualities of the two languages, and was for entering into an elaborate discussion on the vowels and consonants; but a friend that was with me solved the difficulty at once, by assuring me that the French women scarcely did any thing else the whole day than sit and instruct their feathered pupils; and that the birds were thus distinct in their lessons in consequence of continual schooling.

The parrots of France are certainly very expert,

but nothing to those of the Brasils, where the education of a parrot is considered as a very serious affair. The history of Prince Maurice's parrot, given us by Mr. Locke, is too well known to be repeated here; but Clusius assures us that the parrots of that country are the most sensible and cunning of all animals not endued with reason. The great parrot, called the Aicurous, the head of which is adorned with yellow, red, and violet, the body green, the ends of the wings red, the feathers of the tail long and yellow; this bird, he asserts, which is seldom brought into Europe, is a prodigy of understanding. "A certain Brasilian woman, that lived in a "village two miles distant from the island on which "we resided, had a parrot of this kind which was "the wonder of the place. It seemed endued "with such understanding, as to discern and comprehend whatever she said to it. As we sometimes used to pass by that woman's house she "used to call upon us to stop, promising if we "gave her a comb, or a looking-glass, that she "would make her parrot sing and dance to entertain us. If we agreed to her request, as soon as "she had pronounced some words to the bird, it "began not only to leap and skip on the perch on "which it stood, but also to talk and to whistle, "and imitate the shoutings and exclamations of the "Brasilians when they prepare for battle. In brief, "when it came into the woman's head to bid it "sing, it sang; to dance, it danced. But if, contrary to our promise, we refused to give the woman the little present agreed on, the parrot "seemed to sympathize in her resentment, and was "silent and immoveable; neither could we, by

"any means, provoke it to move either foot or "tongue."

This sagacity, which parrots shew in a domestic state, seems also natural to them in their native residence among the woods. They live together in flocks, and mutually assist each other against other animals, either by their courage or their notes of warning. They generally breed in hollow trees, where they make a round hole, and do not line their nest within. If they find any part of a tree beginning to rot from the breaking off of a branch or any such accident, this they take care to scoop, and to make the hole sufficiently wide and convenient; but it sometimes happens that they are content with the hole which a wood-pecker has wrought out with greater ease before them; and in this they prepare to hatch and bring up their young.

They lay two or three eggs; and probably the smaller kind may lay more; for it is a rule that universally holds through nature, that the smallest animals are always the most prolific; for being, from their natural weakness, more subject to devastation, Nature finds it necessary to replenish the species by superior fecundity. In general, however, the number of their eggs is stinted to two, like those of the pigeon, and they are about the same size. They are always marked with little specks, like those of a partridge; and some travellers assure us, that they are always found in the trunks of the tallest, straightest, and the largest trees. The natives of these countries, who have little else to do, are very assiduous in spying out the places where the parrot is seen to nestle, and generally come with great joy to inform the Europeans, if

there be any, of the discovery. As those birds have always the greatest docility that are taken young, such a nest is often considered as worth taking some trouble to be possessed of; and, for this purpose, the usual method of coming at the young is, by cutting down the tree. In the fall of the tree it often happens that the young parrots are killed; but if one of them survives the shock, it is considered as a sufficient recompence.

Such is the avidity with which these birds are sought when young; for it is known they always speak best when their ear has not been anticipated by the harsh notes of the wild ones. But as the natives are not able upon all occasions to supply the demand for young ones, they are contented to take the old; and for that purpose shoot them in the woods with heavy arrows, headed with cotton, which knocks down the bird without killing it. The parrots thus stunned are carried home: some die, but others recover, and, by kind usage and plentiful food, become talkative and noisy.

But it is not for the sake of their conversation alone that the parrot is sought after among the savages; for, though some of them are but tough and ill-tasted, yet there are other sorts, particularly of the small parakeet tribe, that are very delicate food. In general it obtains, that whatever fruit or grain these birds mostly feed upon, their flesh partakes of the flavour, and becomes good or ill-tasted, according to the quality of their particular diet. When the guava is ripe, they are at that season fat and tender; if they feed upon the seed of the acajou, their flesh contracts an agreeable flavour of garlick; if they feed upon the seed of the spicy trees, their

flesh then tastes of cloves and cinnamon ; while, on the contrary, it is insupportably bitter if the berries they feed on are of that quality. The seed of the cotton-tree intoxicates them in the same manner as wine does man; and even wine itself is drunk by parrots, as Aristotle assures us, by which they are thus rendered more talkative and amusing. But of all food, they are fondest of the carthamus, or bastard saffron; which though strongly purgative to man, agrees perfectly with their constitution, and fattens them in a very short time.

Of the parakeet kind in Brasil, Labat assures us, that they are the most beautiful in their plumage, and the most talkative birds in nature. They are very tame, and appear fond of mankind ; they seem pleased with holding parley with him ; they never have done; but while he continues to talk, answer him, and appear resolved to have the last word: but they are possessed of another quality which is sufficient to put an end to this association: their flesh is the most delicate imaginable, and highly esteemed by those who are fonder of indulging their appetites than their ears. The fowler walks into the woods, where they keep in abundance; but as they are green, and exactly the colour of the leaves among which they sit, he only hears their prattle, without being able to see a single bird; he looks round him, sensible that his game is within gun-shot in abundance, but is mortified to the last degree that it is impossible to see them. Unfortunately for these little animals, they are restless and ever on the wing, so that in flying from one tree to another he has but too frequent opportunities of destroying them: for as soon as they have stripped

the tree on which they sate of all its berries, some one of them flies off to another; and, if that be found fit for the purpose, it gives a loud call, which all the rest resort to. That is the opportunity the fowler has long been waiting for, he fires in among the flock while they are yet on the wing; and he seldom fails of bringing down a part of them. But it is singular enough to see them when they find their companions fallen. They set up a loud outcry, as if they were chiding their destroyer, and do not cease till they see him preparing for a second charge.

But though there are so many motives for destroying these beautiful birds, they are in very great plenty; and in some countries on the coast of Guinea, they are considered by the Negroes as their greatest tormentors. The flocks of parrots persecute them with their unceasing screaming; and devour whatever fruits they attempt to produce by art in their little gardens. In other places they are not so destructive, but sufficiently common; and, indeed, there is scarcely a country of the tropical climates that has not many of the common kinds as well as some peculiarly its own. Travellers have counted more than an hundred different kinds on the continent of Africa only; there is one country in particular, north of the Cape of Good Hope, which takes its name from the multitude of parrots which are seen in its woods. There are white parrots seen in the burning regions of Ethiopia; in the East-Indies, they are of the largest size; in South America, they are docile and talkative; in all the islands of the Pacific Sea and the Indian Ocean, they swarm in great variety and abundance,

and add to the splendour of those woods which Nature has dressed in eternal green.

So generally are these birds known at present, and so great is their variety, that nothing seems more extraordinary than that there was but one sort of them known among the ancients, and that at a time when they pretended to be masters of the world. If nothing else could serve to shew the vanity of a Roman's boast, the parrot-tribe might be an instance, of which there are an hundred kinds now known, not one of which naturally breeds in the countries that acknowledged the Roman power. The green parakeet, with a red neck, was the first of this kind that was brought into Europe, and the only one that was known to the ancients from the time of Alexander the Great to the age of Nero. This was brought from India; and when afterwards the Romans began to seek and rummage through all their dominions, for new and unheard of luxuries, they at last found out others in Gaganda, an island of Ethiopia, which they considered as an extraordinary discovery.

Parrots have usually the same disorders with other birds; and they have one or two peculiar to their kind. They are sometimes struck by a kind of apoplectic blow, by which they fall from their perches, and for a while seem ready to expire. The other is the growing of the beak, which becomes so very much hooked as to deprive them of the power of eating. These infirmities, however, do not hinder them from being long-lived; for a parrot well kept will live five or six and twenty years.

CHAP. VIII.

The Pigeon, and its Varieties.

THIS is one of the birds which, from its great fecundity, we have, in some measure, reclaimed from a state of nature, and taught to live in habits of dependence. Indeed, its fecundity seems to be increased by human cultivation, since those pigeons that live in a wild state, in the woods, are by no means so fruitful as those in our pigeon-houses nearer home. The power of increase in most birds depends upon the quantity of their food; and it is seen, in more than one instance, that man, by supplying food in plenty, and allowing the animal at the same time a proper share of freedom, has brought some of those kinds which are known to lay but once a year, to become much more prolific.

The tame pigeon, and all its beautiful varieties, derive their origin from one species, the Stock Dove only, the English name, implying its being the stock or stem from whence the other domestic kinds have been propagated. This bird, in its natural state, is of a deep bluish ash-colour; the breast dashed with a fine changeable green and purple; its wings marked with two black bars; the back white, and the tail barred near the end with black. These are the colours of the pigeon in a state of nature; and from these simple tints has man by art propagated a variety that words cannot describe, nor even fancy suggest. However, Nature still perseveres in her great out-line; and though the form,

colour, and even the fecundity of these birds may be altered by art, yet their natural manners and inclinations continue still the same.

The stock-dove, in its native woods, differs from the ring-dove, a bird that has never been reclaimed, by its breeding in the holes of rocks and the hollows of trees. All other birds of the pigeon-kind build like rooks, in the topmost branches of the forest, and chuse their habitation as remote as possible from man. But this species soon takes to build in artificial cavities; and, from the temptation of a ready provision and numerous society, easily submits to the tyranny of man. Still, however, it preserves its native colour for several generations, and becomes more variegated only in proportion as it removes from the original simplicity of its colouring in the woods.

The dove-house pigeon, as is well known, breeds every month; but then it is necessary to supply it with food when the weather is severe, or the fields are covered with snow. Upon other occasions, it may be left to provide for itself; and it generally repays the owner for his protection. The pigeon lays two white eggs, which most usually produce young ones of different sexes. For the laying of each egg, it is necessary to have a particular congress with the male; and the egg is usually deposited in the afternoon. When the eggs are thus laid, the female in the space of fifteen days, not including the three days during which she is employed in laying, continues to hatch, relieved at intervals by the male. The turns are usually regulated with great exactness. From three or four o'clock in the evening till nine the next day, the female continues

to sit; she is then relieved by the male, who takes his place from ten till three, while his mate is feeding abroad. In this manner they sit alternately till the young are excluded. If, during this term, the female delays to return at the expected time, the male follows and drives her to the nest; and should he in his turn be dilatory, she retaliates with equal severity.

The young ones when hatched require no food for the three first days, only wanting to be kept warm, which is an employment the female takes entirely upon herself. During this period, she never stirs out, except for a few minutes to take a little food. From this they are fed for eight or ten days, with corn or grain of different kinds, which the old ones gather in the fields, and keep treasured up in their crops, from whence they throw it up again into the mouths of their young ones, who very greedily demand it.

As this method of feeding the young from the crop is different in birds of the pigeon-kind from all others, it demands a more detailed explanation. Of all birds, for its size, the pigeon has the largest crop, which is also made in a manner quite peculiar to the kind. In two of these that were dissected by a member of the Royal Academy of Sciences, it was found that if the anatomists blew air into the windpipe, it distended the crop or gullet to a prodigious size. This was the more extraordinary as there seemed to be no communication whatsoever between these two receptacles, as the conduit by which we breathe, as every one knows, leads to a very different receptacle from that where we put our food. By what apertures the air blown into the

lungs of the pigeon makes its way into the crop, is unknown; but nothing is more certain than that these birds have a power of filling the crop with air; and some of them, which are called croppers distend it in such a manner, that the bird's breast seems bigger than its body. The peculiar mechanism of this part is not well known, but the necessity for it in these animals is pretty obvious. The pigeon, as we all know, lives entirely upon grain and water: these are mixed together in the crop; and in the ordinary way are digested in proportion as the bird lays in its provision. But to feed its young, which are very voracious, it is necessary to lay in a store greater than ordinary, and to give the food a kind of half maceration to suit their tender appetites. The heat of the bird's body, assisted by air, and numerous glands separating a milky fluid, are the most necessary instruments for this operation; but, in proportion as the food macerates, it begins to swell also; and the crop must of consequence be considerably dilated. Still, however, the air which is contained in it gives the bird a power of contracting it at pleasure; for if it were filled with more solid substances, the bird could have no power to compress it. But this is not the case, the bird can compress its crop at pleasure; and driving out the air, can thus drive out the food also, which is forced up the gullet like a pellet from a pop-gun. The young ones open-mouthed receive this tribute of affection, and are thus fed three times a day. In feeding, the male usually supplies the young female; while the old female supplies the young of the opposite sex. The food with which they are supplied is more macerated in

the beginning; but as they grow older, the parents give it less preparation, and at last drive them out to shift for themselves. When well fed, however, the old ones do not wait for the total dismission of their young; but, in the same nest, are to be found young ones almost fit for flight, and eggs hatching at the same time.

The fidelity of the turtle dove is proverbial, and makes the usual comparison of such poets as are content to repeat what others have said before them; but the pigeon of the dove-house is not so faithful; and, having been subjected to man, it puts on licentiousness among its other domestic habits. Two males are often seen quarrelling for the same mistress; and when the female admits the addresses of a new gallant, her old companion seems to bear the contempt with some marks of displeasure, abstains from her company, or if he approaches, it is only to chastise her. There have been instances when two males being displeased with their respective mates, have thought proper to make an exchange, and have lived in great harmony with their new companions.

So great is the produce of this bird in its domestic state, that near fifteen thousand may in the space of four years be produced from a single pair. But the stock-dove seldom breeds above twice a year; for, when the winter months come, the whole employment of the fond couple is rather for self-preservation, than transmitting a posterity. They seem, however, to have a stronger attachment to their young than those who are found to breed so often; whether it be that instinct acts more powerfully upon them in their state of nature, or that

their affections are less divided by the multiplicity of claims.

It is from a species of these, therefore, that those pigeons which are called carriers, and are used to convey letters, are produced. These are easily distinguished from all others by their eyes, which are compassed about with a broad circle of naked white skin, and by being of a dark blue or blackish colour. It is from their attachment to their native place, and particularly where they have brought up their young, that these birds are employed in several countries as the most expeditious carriers. They are first brought from the place where they were bred, and whither it is intended to send them back with information. The letter is tied under the bird's wing, and it is then let loose to return. The little animal no sooner finds itself at liberty, than its passion for its native spot directs all its motions. It is seen, upon these occasions, flying directly into the clouds to an amazing height; and then, with the greatest certainty and exactness, directing itself by some surprising instinct towards home, which lies sometimes at many miles distance, bringing its message to those to whom it is directed. By what marks they discover the place, by what chart they are guided in the right way, is to us utterly unknown; certain it is, that in the space of an hour and a half they perform a journey of forty miles; which is a degree of dispatch three times greater than the fleetest quadruped can perform. These birds are not brought up at present with as much care as formerly, when they were sent from governors in a besieged city to generals that were coming to relieve it without; when they were

sent from princes to their subjects with the tidings of some fortunate event, or from lovers to their mistresses with expressions of their passion. The only use we now see made of them, is to be let fly at Tyburn when the cart is drawn away; pretty much as when some ancient hero was to be interred, an eagle was let off from the funeral pile, to complete his apotheosis*.

The varieties of the tame pigeon are so numerous that it would be a vain attempt to mention them: so much is the figure and the colour of this bird under human controul, that pigeon fanciers, by coupling a male and female of different sorts, can breed them,

* [In the Annual Register for the year 1765, we read of an experiment which was made, by which the velocity of flight in these birds was pretty well ascertained. A Gentleman, for a trifling wager, sent a carrier-pigeon from London by the coach, to a friend at St. Edmondsbury; and along with it a note, desiring that the pigeon, two days after its arrival there, might be thrown up precisely when the town clock struck nine in the morning. This was accordingly done; and the pigeon arrived in London, and flew into the Bell Inn in Bishopsgate street, at half an hour past eleven o'clock of the same morning; having flown 72 miles in the space of two hours and a half.

Some years ago this animal was made use of for a very extraordinary purpose. During the drawing of the Lottery, a gang of sharpers, distributed in various places, devised a scheme for making this bird the instrument of their plunder. One of these was to bring with him a carrier-pigeon, and wait in the Guildhall till a large prize was drawn, and with all possible dispatch, to place the fortunate number under the wing of the pigeon, and let him loose. This intelligence was faithfully conveyed to his associate, in a much more speedy manner than by the usual mode, and he was directed to insure the number, to whatever amount he thought proper. It is probable, that from this circumstance might arise the application of the common cant term *pigeon*, to any one who had been over-reached and cheated.]

as they express it, to a feather. From hence we have the various names of Croppers, Carriers, Jacobines, Powters, Runts, and Turbits: all birds that at first might have accidentally varied from the stock-dove; and then, by having these varieties still heightened by food, climate and pairing, different species have been produced. But there are many species of the wild pigeon which, though bearing a strong affinity to the stock-dove, are, nevertheless, sufficiently different from it to deserve a distinct description. The Ring-dove is of this number; a good deal larger than the former, and building its nest, with a few dry sticks, in the boughs of trees. This seems a bird much fonder of its native freedom than the former; and attempts have been frequently made to render it domestic: but they have hitherto proved fruitless; for, though their eggs have been hatched by the tame pigeon in a dove-house, yet, as soon as they could fly, they always betook themselves to the woods where they were first produced. In the beginning of winter these assemble in great flocks in the woods, and leave off cooing; nor do they resume this note of courtship till the beginning of March, when the genial season, by supplying them with food, renews their desires.

The Turtle-dove is a smaller, but a much shyer, bird than any of the former. It may easily be distinguished from the rest by the iris of the eye, which is of a fine yellow, and by a beautiful crimson circle that encompasses the eye-lids. The fidelity of these birds is noted; and a pair being put in a cage, if one dies, the other will not survive it. The turtle-dove is a bird of passage, and few or none remain in our northern climates in winter. They fly in

flocks when they come to breed here in summer, and delight in open, mountainous, sandy countries. But they build their nests in the midst of woods, and chuse the most retired situations for incubation. They feed upon all sorts of grain, but are fondest of millet-seed.

To this short list might be added a long catalogue of foreign pigeons, of which we know little more than the plumage and the names: indeed, the variety of their plumage is as beautiful as the names by which they are known are harsh and dissonant. The Ocotzimtzcan, for instance, is one of the most splendid tenants of the Mexican forests; but few I believe would desire to learn the name, only to be informed that it is covered with purple, green, and yellow plumage. To describe such birds, the historian's pen is not half such an useful implement as the painter's pencil.

OF

BIRDS

OF THE

SPARROW KIND.

PART IV.

CHAP. I.

Of Birds of the Sparrow Kind in General.

STILL descending from the larger to the smaller, we come to birds of the sparrow kind; or that class of beautiful little animals that, being less than the pigeon, go on diminishing till we arrive at the humming-bird, the smallest of the feathered creation.

The birds which compose this class chiefly live in the neighbourhood of man, and are his greatest favourites. The falcon may be more esteemed and the turkey more useful; but these he considers as servants, not as friends; as animals reclaimed merely to supply him with some of the conveniences of life: but these little painted songsters have his affections, as well from their beauty as their melody; it is this delightful class that fill his groves with harmony, and lift his heart to sympathize with their raptures. All the other classes are either mute or screaming; it is this diminutive tribe only that have voices equal to the beauty of their figures; equally adapted to rejoice man, and delight each other.

As they are the favourites of man, so they are chiefly seen near him. All the great birds dread his vicinity, and keep to the thickest darkness of the forest, or the brow of the most craggy precipice; but these seldom resort to the thicker parts of the wood; they keep near its edges, in the neighbourhood of cultivated fields; in the hedge-rows of

farm-grounds; and even in the yard, mixing with the poultry.

It must be owned, indeed, that their living near man, is not a society of affection on their part, as they approach inhabited grounds merely because their chief provision is to be found there. In the depth of the desert, or the gloom of the forest, there is no grain to be picked up; none of those tender buds that are so grateful to their appetites; insects, themselves, that make so great a part of their food, are not found there in abundance: their natures being unsuited to the moisture of the place. As we enter, therefore, deeper into uncultivated woods, the silence becomes more profound, every thing carries the look of awful stillness; there are none of those warblings, none of those murmurs that awaken attention, as near the habitations of men; there is nothing of that confused buzz, formed by the united though distant voices of quadrupeds and birds; but all is profoundly dead and solemn. Now and then, indeed, the traveller may be roused from this lethargy of life, by the voice of an heron, or the scream of an eagle; but his sweet little friends and warblers have totally forsaken him.

There is still another reason for these little birds avoiding the depths of the forests; which is that their formidable enemies usually reside there. The greater birds, like robbers, chuse the most dreary solitudes for their retreats; and if they do not find, they make a desert all around them. The small birds fly from their tyranny, and take protection in the vicinity of man, where they know their more unmerciful foes will not venture to pursue them.

All birds, even those of passage, seem content with a certain district to provide food and centre in. The red-breast or the wren seldom leaves the field where it has been brought up, or where its young have been excluded; even though hunted it flies along the hedge, and seems fond of the place with an imprudent perseverance. The fact is, all these small birds mark out a territory to themselves, which they will permit none of their own species to remain in; they guard their dominions with the most watchful resentment; and we seldom find two male tenants in the same hedge together.

Thus, though fitted by Nature for the most wandering life, these little animals do not make such distant excursions during the season of their stay, as the stag or the leveret. Food seems to be the only object that puts them in motion, and when that is provided for them in sufficient plenty they never wander. But as that is seldom permanent through the year, almost every bird is then obliged to change its abode. Some are called birds of passage, because they are obliged to take long journeys for this purpose; but, strictly speaking, almost every other kind are birds of passage, though their migration may not be to places so remote. At some particular season of the year, all small birds migrate either from one county to another, or from the more inland provinces towards the shore.

There are several persons who get a livelihood by watching the seasons when our small birds begin to migrate from one county to another, and by taking them with nets in their passage. The birds are found to fly, as the bird catchers term it, chiefly during the month of October, and part of Septem-

ber and November. There is also another flight in March, which is much less considerable than that in autumn. Nor is it less remarkable, that several of these species of flight-birds make their appearance in regular succession. The pippit, for instance, begins its flight every year about Michaelmas, when they are caught in greatest number. To this the wood-lark succeeds, and continues its flight till towards the middle of October; other birds follow, but are not so punctually periodical; the green-finch does not begin till the frost obliges it to seek for a change. These birds, during those months, fly from day-break till twelve at noon; and there is afterwards a small flight from two till night. Such are the seasons of the migration of the birds, which have been usually considered as stationary, and on these occasions they are caught in great abundance, as they are on their journey. But the same arts used to allure them upon other occasions would be utterly fruitless, as they avoid the nets with the most prudent circumspection. The autumnal flight probably consists of the parents conducting their new-fledged young to those places where there is sufficient provision, and a proper temperament of the air during the winter season: and their return in spring is obviously from an attachment to the place which was found so convenient before for the purposes of nestling and incubation.

Autumn is the principal season when the bird-catcher employs his art to catch these wanderers. His nets are a most ingenious piece of mechanism, being generally twelve yards and an half long, and two yards and an half wide, and so contrived as from a flat position to rise on each side, and clap

over the birds that are decoyed to come between them. The birds in their passage are always observed to fly against the wind; hence there is a great contention among the bird-catchers which shall gain the wind; for example, if it is westerly, the bird-catcher who lays his nets most to the east, is sure of the most plentiful sport, if his call-birds are good. For this purpose, he generally carries five or six linnets, two gold-finches, two green-finches, one wood-lark, one red poll, and perhaps a bull-finch, a yellow-hammer, a tit-lark, and an aberdavine: these are placed at small distances from the nets, in little cages. He has besides what he calls his flur-birds, which are placed upon a moveable perch, which the bird-catcher can raise at pleasure by means of a string; and these he always lifts gently up and down as the wild bird approaches. But this is not enough to allure the wild bird down: it must be called by one of the call-birds in the cages; and these, by being made to moult prematurely in a warm cage, call louder and better than those that are wild and at freedom. There even appears a malicious joy in these call-birds to bring the wild ones into the same state of captivity, while at the same time their call is louder and their plumage brighter than in a state of nature. Nor is their sight or hearing less exquisite, far exceeding that of the bird-catcher; for the instant the wild birds are perceived, notice is given by one to the rest of the call-birds, who all unite in the same tumultuous extacy of pleasure. The call-birds do not sing upon these occasions as a bird does in a chamber, but incite the wild ones by short jerks, which, when the birds are good, may be

heard at a great distance. The allurement of this call is so great, that the wild bird hearing it is stopped in its most rapid flight; and, if not already acquainted with the nets, lights boldly within twenty yards perhaps of the bird-catcher, and on a spot which it would otherwise have quite disregarded. This is the opportunity wished for, and the bird catcher pulling a string, the nets on each side rise in an instant, and clap directly down on the poor little unsuspecting visitant. Nay, it frequently happens that if half a flock only are caught, the remaining half will immediately afterwards light between the nets, and share the fate of their companions. Should only one bird escape, this unhappy survivor will also venture into danger till it is caught; such a fascinating power have the call-birds.

Indeed, it is not easy to account for the nature of this call, whether it be a challenge to combat, an invitation to food, or a prelude to courtship. As the call-birds are all males, and as the wild birds that attend to their voice are most frequently males also, it does not seem that love can have any influence in their assiduity. Perhaps the wild females in these flights, attend to and obey the call below, and their male companions of the flight come down to bear them company. If this be the case, and that the females have unfaithfully led their mates into the nets, they are the first that are punished for their infidelity; the males are only made captives for singing; while the females are indiscriminately killed, and sold to be served up to the tables of the delicate.

Whatever be the motives that thus arrest a flock

of birds in their flight, whether they be of gallantry or of war, it is certain that the small birds are equally remarkable for both. It is, perhaps, the genial desire that inspires the courage of most animals; and that being greatest in the males, gives them a greater degree of valour than the females. Small birds, being extremely amorous, are remarkably brave. However contemptible these little warriors are to larger creatures, they are often but too formidable to each other; and sometimes fight till one of them yields up his life with the victory. But their contentions are sometimes of a gentler nature. Two male birds shall strive in song, till, after a long struggle, the loudest shall entirely silence the other. During these contentions, the female sits an attentive silent auditor, and often rewards the loudest songster with her company during the season.

Singing among birds is almost universally the prerogative of the male. With them it is the reverse of what occurs in the human kind. Among the feathered tribe, the heaviest cares of life fall to the lot of the female. Hers is the fatigue of incubation, and to her devolves the principal fatigue of nursing the helpless brood. To alleviate these fatigues, and to support her under them, Nature has given the song to the male. This serves as a note of blandishment at first to attract her affections; it serves as a note to delight her during the time of her incubation; but it serves still farther as a note of security, to assure her that no danger threatens to molest her. The male, while his mate is hatching, sits upon some neighbouring tree, continuing at once to watch and to sing. While his voice is heard, the female rests in confident secu-

rity; and, as the poet expresses it, appears *most blessed when most unseen*: But if any appearance of danger offers to intrude, the male, that a moment before was so loud and sportive, stops all on a sudden; and this is a most certain signal to his mate to provide for her own security.

The nest of little birds seems to be of a more delicate contrivance than that of the larger kinds. As the volume of their bodies is smaller, the materials of which their nests are composed are generally warmer. It is easy to conceive that small things keep heat a shorter time than those that are large. The eggs, therefore, of small birds require a place of more constant warmth than those of great ones, as being liable to cool more quickly; and accordingly their nests are built warmer and deeper, lined on the inside with softer substances, and guarded above with a better covering. But it sometimes happens that the little architects are disturbed in their operations, and then they are obliged to make a nest, not such as they wish, but such as they can. The bird, whose nest has been robbed several times, builds up her last in a very slovenly manner, conscious that, from the near approach of winter, she must not take time to give her habitation every possible advantage it is capable of receiving. When the nest is finished, nothing can exceed the cunning which the male and female employ to conceal it. If it is built in bushes, the pliant branches are so disposed as to hide it entirely from the view; if it be built among moss, nothing outwardly appears to shew that there is an habitation within. It is always built near those places where food is found in greatest abundance; and they take care never to go in or out while there

is any one in sight. The greater birds continue from their nest for some time, as their eggs take no damage in their absence; but the little birds are assiduous while they sit, and the nest is always occupied by the male when the female is obliged to seek for sustenance.*

The first food of all birds of the sparrow kind is worms and insects. Even the sparrow and the gold-finch, that when adult feed only upon grain, have both been fed upon insects while in the nest. The young ones, for some time after their exclusion from the shell, require no food; but the parent soon finds by their chirping and gaping that they begin to feel the approaches of hunger, and flies to provide them a plentiful supply. In her absence, they continue to lie close together, and cherish each other by their mutual warmth. During this interval also they preserve a perfect silence, uttering not the slightest note till the parent returns. Her arrival is always announced by a chirrup, which they perfectly understand, and which they answer all together, each petitioning for its portion. The parent distributes a supply to each by turns, cautiously avoiding to gorge them, but to give them often though little at a time. The wren will in this manner feed seventeen or eighteen young ones, without passing over one of them.

Such is the manner in which these birds bring forth and hatch their young; but it yet remains to usher them from the nest into life, and this they very assiduously perform. When they are fully fledged, and fitted for short flights, the old ones, if the weather be fair, lead them a few yards from the nest,

nest, and then compel them to return. For two or three succeeding days they are led out in the same manner, but each day to seek more distant adventures. When it is perceived that they can fly, and shift for themselves, then the parents forsake them for ever, and pay them no more attention than they do to other birds in the same flock. Indeed, it would seem among these little animals that, from the moment their young are set out, all future connexion ceases between the male and female; they go separate ways, each to provide for itself, during the rigours of winter; and, at the approach of spring, each seeks for a new associate.

In general, birds, when they come to pair in spring, associate with those of their own age and place of abode. Their strength or courage is generally in proportion to their age; the oldest females first feel the accesses of desire, and the oldest males are the boldest to drive off all younger pretenders. Those next in courage and desire, become pretenders, till they are almost all provided in turn. The youngest come last; as, in fact, they are the latest in their inclinations. But still there are several, both males and females, that remain unprovided for; either not happening to meet with each other, or at least not during the genial interval. Whether these mix with small birds of a different species, is a doubt which naturalists have not been able thoroughly to resolve. Addison, in some beautiful Latin lines, inserted in the Spectator, is entirely of opinion that birds observe a strict chastity of manners, and never admit the caresses of a different tribe.

Chaste are their instincts, faithful is their fire,
No foreign beauty tempts to false desire;
The snowy-white vesture, and the glittering crown,
The simple plumage, or the glossy down,
Prompt not their love. The patriot bird pursues
His well-acquainted tints, and kindred hues:
Hence through their tribes no mix'd polluted flame,
No monster breed to mark the groves with shame:
But the chaste blackbird, to its partner true,
Thinks black alone is beauty's favourite hue:
The nightingale, with mutual passion blest,
Sings to its mate, and nightly charms the nest:
While the dark owl, to court his partner flies,
And owns his offspring in their yellow eyes.

But whatever may be the poet's opinion, the probability is against this fidelity among the smaller tenants of the grove. The great birds are much more true to their species than these; and, of consequence, the varieties among them are more few. Of the ostrich, the cassowary, and the eagle, there are but few species; and no arts that man can use, could probably induce them to mix with each other.

But it is otherwise with the small birds we are describing; it requires very little trouble to make a species between a gold-finch and a canary-bird, between a linnet and a lark. They breed frequently together; and produces a race, not, like the mules among quadrupeds, incapable of breeding again; for this motly mixture are as fruitful as their parents. What is so easily done by art, very probably often happens in a state of nature; and when the male cannot find a mate of his own species, he flies to one of another, that, like him, has been left out in pairing. This, some historians think, may

have given rise to the great variety of small birds that are seen among us; some uncommon mixture might first have formed a new species, and this might have been continued down, by birds of this species chusing to breed together.

Whether the great variety of our small birds may have arisen from this source, cannot now be ascertained: but certain it is, that they resemble each other very strongly, not only in their form and plumage, but also in their appetites and manner of living. The gold-finch, the linnet, and the yellow-hammer, though obviously of different species, yet lead a very similar life; beinge qually an active, lively, salacious tribe, that subsist by petty thefts upon the labours of mankind, and repay them with a song. Their nests bear a similitude; and they are all about the same time in hatching their young, which is usually fifteen days. Were I therefore to describe the manners of these with the same minuteness that I have done the greater birds, I should only present the reader with a repetition of the same accounts; animated neither by novelty nor information. Instead, therefore, of specifying each sort, I will throw them into groupes; uniting those together that practise the same manners, or that are remarkable for similar qualifications.

Willughby has divided all the smaller birds into those that have slender bills, and those that have short and thick bills. Those with slender bills chiefly live upon insects; those with short, strong bills, live mostly upon fruits and grain. Among slender-billed birds, he enumerates the thrush, the blackbird, the fieldfare, the starling, the lark, the titmouse, the water-wagtail, the nightingale, the

red-start, the robin red-breast, the beccafigo, the stone-chatter, the whinchat, the goldfinch, the white-throat, the hedge-sparrow, the pettichaps, the golden-crowned wren, the wren, the humming-bird, and several other small birds of the sparrow kind, unknown in this part of the world.

All these, as was said, live for the most part upon insects, and are consequently of particular benefit to man. By these are his grounds cleared of the pernicious swarms of vermin that devour the budding leaves and flowers; and that even attack the root itself, before ever the vegetable can come to maturity. These seek for and destroy the eggs of insects that would otherwise propagate in numbers beyond the arts of man to extirpate; they know better than man where to seek for them; and thus at once satisfy their own appetites, and render him the most essential services. But this is not the only merit of this tribe: in it we have the sweetest songsters of the grove: their notes are softer, and their manner more musically soothing than those of hard-billed birds. The foremost in musical fame are, the nightingale, the thrush, the blackbird, the lark, the red-breast, the black-cap, and the wren.

Birds of the sparrow kind, with thick and short bills, are the grossbeak, the greenfinch, the bullfinch, the crossbill, the house-sparrow, the chaffinch, the brambling, the goldfinch, the linnet, the siskin, the bunting, the yellow-hammer, the ortolan, the wheat-ear, and several other foreign birds, of which we know rather the names than the history. These chiefly feed upon fruits, grain, and corn. They are often troublesome to man, as they

are a numerous tribe: the harvest often suffers from their depredations; and while they are driven off from one end of the field, they fly round and come in at the other. But these also have their uses: they are frequently the distributors of seeds into different districts; those grains which they swallow, are sometimes not wholly digested, and these, laid upon a soil congenial to them, embellish the face of nature with that agreeable variety which art but vainly attempts to imitate. The misletoe plant, which we often see growing on the tops of elm and other trees, has been thought to be propagated in this manner; yet, as it is often seen growing on the under side of the branch, and sometimes on a perpendicular shoot, it seems extraordinary how a seed could be deposited in that situation. However this be, there are many plants propagated from the depositions of birds; and some seeds are thought to thrive the better, for first having undergone a kind of maceration in the stomach of the little animal, before it is voided on the ground.

There are some agreeable songsters in this tribe also; and those who like a loud piercing pipe, endued with great variety and perseverance, will be pleased most with their singing. The songsters of this class are the canary-bird, the linnet, the chaffinch, the goldfinch, the greenfinch, the bullfinch, the brambling, the siskin, and the yellow-hammer. The note of these is not so generally pleasing as that of the soft-billed bird, but it usually holds longer; and, in a cage, these birds are more easily fed, and hardy.

This class of small birds, like all the greater, has

its wanderers, that leave us for a season, and then return to propagate, to sing, or to embellish the landscape here. Some of this smaller kind, indeed, are called birds of passage, that do not properly come under that denomination; for though they disappear in one place, they never leave the kingdom, but are seen somewhere else. But there are many among them, that take longer flights, and go to a region colder or warmer, as it suits their constitutions. The field-fare and the red-wing breed, pass their summers in Norway, and other cold countries, and are tempted hither to our mild winters, and to those various berries which then abound with us, and make their principal food. The hawfinch and the crossbill are uncertain visitants, and have no stated times of migration. Swallows of every species disappear at the approach of winter. The nightingale, the black-cap, the fly-catcher, the willow-wren, the wheat-ear, the whin-chat, and the stone-chatter, leave us long before the approach of winter; while the siskin and the linnet only forsake us when our winters are more than usually severe. All the rest of the smaller tribe never quit this country; but support the severest rigours of the climate.

Yet it must not be supposed that the manners of our little birds prevail in all other countries; and that such kinds as are stationary with us, never wander in other parts of Europe; on the contrary, it happens that many of those kinds which are birds of passage in England, are seen, in other places, never to depart, but to make one country their fixed residence the whole year round. It is also frequent, that some birds, which with us are faithful resi-

dents, in other kingdoms put on the nature of birds of passage, and disappear for a season.

The swallow, that with us is particularly remarked for being a bird of passage, in Upper Egypt, and in the island of Java, breeds and continues the whole year, without ever disappearing. Larks, that remain with us the year throughout, are birds of passage in Sweden; and forsake that climate in winter, to return again with the returning spring. The chaffinch, that with us is stationary, appears during the winter in Carolina and Virginia; but disappears totally in summer, to breed in the more northern regions. In Sweden, also, these little birds are seen returning, at the approach of spring, from the warmer climates, to propagate; which being accomplished by the latter end of autumn, the males and females separate; the males to continue among their native snows, the females to seek a warmer and gentler winter. On this occasion, they are seen in flocks, that darken all the air, without a single male among them, making their way into the more southern regions of Denmark, Germany, and Holland. In this amazon-like retreat, thousands fall by the way; some by fatigue, some by want; but the greatest number by the nets of the fowler; the taking them being one of the chief amusements among the gentry where they pass. In short, the change of country with all this little tribe, is rather a pilgrimage than a journey; a migration rather of necessity than of choice.

Having thus given a general idea of the birds of this class, it will be proper to give some account of the most remarkable among them.

CHAP. II.

Of the Thrush, and its Affinities.

WITH the Thrush we may rank the red-wing, the field-fare, the black-bird, the ring-ouzel, and the water-ouzel.

These are the largest of the sparrow-kind, and may be distinguished from all others of this class, as well by their size, which is well known, as by their bills, which are a little bending at the point; a small notch near the end of the upper chap, and the outmost toe adhering as far as the first joint of the middle toe. To this tribe may be also added the stare or starling, which, though with a flat bill, too much resembles these birds to be placed any where else.

The missel-thrush is distinguished from all of the kind by its superior size, being much larger than any of them. It differs scarcely in any other respect from the throstle, except that the spots on the breast are larger. It builds its nest in bushes, or on the side of some tree, as all of this kind are found to do, and lays four or five eggs in a season. Its song is very fine, which it begins in spring, sitting on the summit of a high tree. It is the largest bird of all the feathered tribe that has music in its voice; the note of all greater birds being either screaming, chattering, or croaking. It feeds on insects, holly and misletoe-berries; and sometimes sends forth a very disagreeable scream when frighted or disturbed.

The black-bird, which in cold countries, and particularly upon the Alps, is sometimes seen all

over white, is a beautiful and canorous bird, whistling all the spring and summer time with a note at a distance the most pleasing of all the grove. It is the deepest toned warbler of the woods; but it is rather unpleasant in a cage, being loud and deafening. It lays four or five blueish eggs, in a nest usually built at the stump of some old hawthorn, well plaistered on the inside with clay, straw, and hair.

Pleasing, however, as this bird may be, the blue-bird, described by Bellonius, is in every respect far superior. This beautiful animal entirely resembles a black-bird in all but its blue colour. It lives in the highest parts of the Alps, and even there chuses the most craggy rocks and the most frightful precipices for its residence. As it is rarely caught, it is in high estimation even in the countries where it breeds, but still more valuable when carried from home. It not only whistles in the most delightful manner, but speaks with an articulate distinct voice. It is so docile, and observes all things with such diligence, that, though waked at midnight by any of the family, it will speak and whistle at the word of command. Its colour, about the beginning of winter, from blue becomes black, which changes to its original hue on the first approaches of spring. It makes its nest in deep holes, in very high and inaccessible solitudes, and removes it not only from the accesses of man, but also hides it with surprising cunning from the shammoy, and other wild beasts that might annoy its young.

The manner of taking this beautiful bird is said to be this. The fowlers, either by chance, or lying in wait, having found out the place w

builds, take with them a strong stilt or stake, such as the climbers of rocks make use of to assist them in their ascent. With the assistance of this, they mount where an indifferent spectator would think it impossible to ascend, covering their heads at the same time to ward off any danger of the falling of pebbles or stones from above. At length, with extreme toil and danger, having arrived at the nest, they draw it up from the hole in which it is usually buried, and cherish the young with an assiduity equal to the pains they took to obtain them. It produces for the most part five young, and never more; it seldom descends into the plain country; flies swifter than a black-bird, and uses the same food.

The field-fare and the red wing make but a short stay in this country. With us they are insipid tuneless birds, flying in flocks, and excessively watchful to preserve the general safety. All their season of music and pleasure is employed in the more northern climates, where they sing most delightfully, perched among the forests of maples, with which those countries abound. They build their nests in hedges; and lay six blueish green eggs spotted with black.

The stare, distinguishable from the rest of this tribe by the glossy green of its feathers in some lights, and the purple in others, breeds in hollow trees, eaves of houses, towers, ruins, cliffs, and often in high rocks over the sea. It lays four or five eggs of a pale greenish ash-colour, and makes its nest of straw, small fibres, of roots, and such like. Its [illegible]s tougher than the rest of this kind; but what [illegible]ts in the melody of its note, it compensates

by the facility with which it is taught to speak. In winter these birds assemble in vast flocks, and feed upon worms and insects. At the approach of spring, they assemble in fields, as if in consultation together, and for three or four days seem to take no nourishment: the greater part leave the country; the rest breed here and bring up their young.

To this tribe might be added above an hundred other birds of nearly the thrush size, and living like them upon fruit and berries. Words could not afford variety enough to describe all the beautiful tints that adorn the foreign birds of the thrush kind. The brilliant green of the emerald, the flaming red of the ruby, the purple of the amethyst, or the bright blue of the sapphire, could not by the most artful combination shew any thing so truly lively or delightful to the sight as the feathers of the chilcoqui or the tautotol. Passing, therefore, over these beautiful, but little known birds, I will only mention the American mock bird, the favourite songster of a region where the birds excel rather in the beauty of their plumage than the sweetness of their notes.

This valuable bird does not seem to vie with the feathered inhabitants of that country in the beauty of its plumage, content with qualifications that endear it to mankind much more. It is but a plain bird to the eye, about the size of a thrush, of a white and grey colour, and a reddish bill. It is possessed not only of its own natural notes, which are musical and solemn, but it can assume the tone of every other animal in the wood, from the wolf to the raven. It seems even to sport itself in leading them astray. It will at one time allure the lesser

birds with the call of their males, and then terrify them when they have come near with the screams of the eagle. There is no bird in the forest but it can mimic; and there is none that it has not at times deceived by its call. But, not like such as we usually see famed for mimicking with us, and who have no particular merit of their own, the mock-bird is ever surest to please when it is most itself. At those times it usually frequents the houses of the American planters; and, sitting all night on the chimney-top, pours forth the sweetest and the most various notes of any bird whatever. It would seem, if accounts be true, that the deficiency of most other song-birds in that country is made up by this bird alone. They often build their nests in the fruit-trees about houses, feed upon berries and other fruits, and are easily rendered domestic.

CHAP. III.

Of the Nightingale and other soft-billed Song Birds.

THE Nightingale is not only famous among the moderns for its singing, but almost every one of the ancients who undertook to describe beautiful nature, has contributed to raise its reputation. "The "Nightingale," says Pliny, "that, for fifteen days "and nights hid in the thickest shades, continues "her note without intermission, deserves our atten-"tion and wonder. How surprising, that so great "a voice can reside in so small a body! such per-"severance in so minute an animal! With what a

" musical propriety are the sounds it produces mo-
" dulated! The note at one time drawn out with a
" long breath, now stealing off into a different ca-
" dence, now interrupted by a break, then chang-
" ing into a new note by an unexpected transition;
" now seeming to renew the same strain, then de-
" ceiving expectation! She sometimes seems to mur-
" mur within herself; full, deep, sharp, swift, drawl-
" ing, trembling; now at the top, the middle, and
" the bottom of the scale! In short, in that little bill
" seems to reside all the melody which man has
" vainly laboured to bring from a variety of musi-
" cal instruments. Some even seem to be pos-
" sessed of a different song from the rest, and con-
" tend with each other with great ardour. The
" bird overcome is then seen only to discontinue
" its song with its life."

This most famous of the feathered tribe visits England in the beginning of April, and leaves us in August. It is found but in some of the southern parts of the country, being totally unknown in Scotland, Ireland, or North Wales. They frequent thick hedges and low coppices, and generally keep in the middle of the bush, so that they are rarely seen. They begin their song in the evening, and generally continue it for the whole night. For weeks together, if undisturbed, they sit upon the same tree; and Shakspeare rightly describes the nightingale sitting nightly in the same place, which I have frequently observed she seldom departs from.

From Pliny's description, we should be led to believe this bird possessed of a persevering strain; but, though it is in fact so with the nightingale in Italy, yet in our hedges in England the little song-

stress is by no means so liberal of her music. Her note is soft, various, and interrupted; she seldom holds it without a pause above the time that one can count twenty. The nightingale's pausing song would be the proper epithet for this bird's music with us, which is more pleasing than the warbling of any other bird, because it is heard at a time when all the rest are silent.

In the beginning of May, the nightingale prepares to make its nest, which is formed of the leaves of trees, straw, and moss. The nest being very eagerly sought after, is as cunningly secreted; so that but very few of them are found by the boys when they go upon these pursuits. It is built at the bottom of hedges, where the bushes are thickest and best covered. While the female continues sitting, the male, at a good distance, but always within hearing, chears the patient hour with his voice, and, by the short interruption of his song, often gives her warning of approaching danger. She lays four or five eggs; of which but a part, in our cold climate, come to maturity.

The delicacy, or rather the fame, of this bird's music, has induced many to abridge its liberty, to be secured of its song. Indeed, the greatest part of what has been written concerning it in our country, consists in directions how to manage it for domestic singing; while the history of the bird is confined to dry receipts for fitting it for the cage. Its song, however, in captivity, is not so very alluring; and the tyranny of taking it from those hedges where only it is most pleasing, still more depreciates its imprisoned efforts. Gesner assures us, that it is not only the most agreeable songster in a

cage, but that it is possessed of a most admirable faculty of talking. He tells the following story in proof of his assertion, which he says was communicated to him by a friend. "Whilst I was at "Ratisbone," says his correspondent, "I put up at "an inn, the sign of the Golden Crown, where "my host had three nightingales. What I am go- "ing to repeat is wonderful, almost incredible, and "yet is true. The nightingales were placed sepa- "rately, so that each was shut up by itself in a dark "cage. It happened at that time, being the spring "of the year, when those birds are wont to sing in- "defatigably, that I was so afflicted with the stone, "that I could sleep but very little all night. It was "usual then about midnight, when there was no "noise in the house, but all still, to hear the two "nightingales jangling, and talking with each "other, and plainly imitating mens' discourses. "For my part I was almost astonished with won- "der; for at this time, when all was quiet else, "they held conference together, and repeated "whatever they had heard among the guests by "day. Those two of them that were most nota- "ble, and masters of this art, were scarce ten foot "distant from one another. The third hung more "remote, so that I could not so well hear it as I "lay abed. But it is wonderful to tell how those "two provoked each other, and by answering, "invited and drew one another to speak. Yet "did they not confound their words, or talk both "together, but rather utter them alternately and "of course. Besides the daily discourse of the "guests, they chanted out two stories, which gene- "rally held them from midnight till morning; and

"that with such modulations and inflections that "no man could have taken to come from such "little creatures. When I asked the host if they "had been taught, or whether he observed their "talking in the night, he answered no: the same "said the whole family. But I, who could not "sleep for nights together, was perfectly sensible "of their discourse. One of their stories was con- "cerning the tapster and his wife, who refused to "follow him to the wars as he desired her; for the "husband endeavoured to persuade his wife, as "far as I understood by the birds, that he would "leave his service in that inn, and go to the wars "in hopes of plunder. But she refused to follow "him, resolving to stay either at Ratisbone, or go to "Nuremberg. There was a long and earnest con- "tention between them; and all this dialogue the "birds repeated. They even repeated the unseemly "words which were cast out between them, and "which ought rather to have been suppressed and "kept a secret. But the birds, not knowing the "difference between modest, immodest, honest, "and filthy words, did out with them. The other "story was concerning the war which the emperor "was then threatening against the protestants; which "the birds probably heard from some of the ge- "nerals that had conferences in the house. These "things did they repeat in the night after twelve "o'clock, when there was a deep silence. But in "the day time, for the most part, they were silent, "and seemed to do nothing but meditate and re- "volve with themselves upon what the guests con- "ferred together as they sat at table, or in their

" walks. I verily had never believed our Pliny
" writing so many wonderful things concerning
" these little creatures, had I not myself seen with
" my eyes, and heard them with my ears uttering
" such things as I have related. Neither yet can
" I of a sudden write all, or call to remembrance
" every particular that I have heard."

Such is the sagacity ascribed to the nightingale; it is but to have high reputation for any one quality and the world is ready enough to give us fame for others to which we have very small pretensions. But there is a little bird, rather celebrated for its affection to mankind than its singing, which, however, in our climate, has the sweetest note of all others. The reader already perceives that I mean the Red-breast, the well known friend of man, that is found in every hedge, and makes it vocal. The note of other birds is louder, and their inflections more capricious; but this bird's voice is soft, tender and well supported; and the more to be valued as we enjoy it the greatest part of the winter. If the nightingale's song has been compared to the fiddle, the red-breast's voice has all the delicacy of the flute.

The red-breast, during the spring, haunts the wood, the grove, and the garden; it retires to the thickest and shadiest hedge-rows to breed in. But in winter it seems to become more domestic, and often to claim protection from man. Most of the soft billed birds, the nightingale, the swallow, and the tit-mouse, leave us in the winter; when their insect food is no longer offered in plenty; but the red-breast continues with us the year round,

and endeavours to support the famine of winter by chirping round the warm habitations of mankind, by coming into those shelters where the rigour of the season is artificially expelled, and where insects themselves are found in greater numbers, attracted by the same cause.

This bird breeds differently in different places; in some countries its nest is usually found in the crevice of some mossy bank, or at the foot of an hawthorn in hedge-rows; in others, it chuses the thickest coverts, and hides its nest with oak leaves. The eggs are from four to five, of a dull white, with reddish streaks.

The Lark, whether the sky-lark, the wood, or the tit-lark, being all distinguishable from other little birds by the length of their heel, are louder in their song than either of the former, but not so pleasing. Indeed, the music of every bird in captivity produces no very pleasing sensations; it is but the mirth of a little animal insensible of its unfortunate situation; it is the landscape, the grove, the golden break of day, the contest upon the hawthorn, the fluttering from branch to branch, the soaring in the air, and the answering of its young, that gives the bird's song its true relish. These united, improve each other, and raise the mind to a state of the highest, yet most harmless exultation. Nothing can in this situation of mind be more pleasing than to see the lark warbling upon the wing; raising its note as it soars, until it seems lost in the immense heights above us, the note continuing, the bird itself unseen; to see it then descending with a swell as it comes from the clouds, yet sinking by degrees as it approaches its nest, the spot where all its affections

are centered; the spot that has prompted all this joy.

The lark builds its nest upon the ground beneath some turf that serves to hide and shelter it. The female lays four or five eggs, of a dusky hue in colour, somewhat like those of a plover. It is while she is sitting that the male thus usually entertains her with his singing; and while he is risen to an imperceptible height, yet he still has his loved partner in his eye, nor once loses sight of the nest, either while he ascends or is descending. This harmony continues several months, beginning early in the spring on pairing. In winter they assemble in flocks, when their song forsakes them, and the bird-catchers destroy them in great numbers for the tables of the luxurious.

The Black-cap and the Wren, though so very diminutive, are yet prized by some for their singing. The former is called by some the mock nightingale; and the latter is admired for the loudness of its note, compared to the little body from whence it issues. It must be confessed, that this disproportion between the voice of a bird and its size, in some measure demands our wonder. Quadrupeds in this respect may be considered as mutes to them. The peacock is louder than the lion, and the rabbit is not so loud as the wren. But it must be considered that birds are very differently formed; their lungs in some measure are extended through their whole body, while in quadrupeds they lie only in the breast. In birds there are a variety of cells which take in the air, and thus pour forth their contents at the little animal's command. The black-cap and the wren, therefore, are as respectable for their voices

as they might be deemed inconsiderable for their size.

All these soft-billed birds, thus prized for their singing, are rendered domestic, and brought up with assiduity by such as are fond of their voices in a cage. The same method of treatment serves for all, as their food and their habits are nearly the same. The manner of taking and treating them, particularly the nightingale, is this. A nightingale's nest may be found by observing the place where the male sings, and then by sticking two or three meal-worms (a kind of maggot found in flour) on some neighbouring thorn, which when he sees he will infallibly bear away to his young. By listening, he then may be heard with the female chirping to the young ones while they are feeding. When the nest is found, if the young ones are not fledged enough to be taken they must not be touched with the hands, for then the old ones will perceive it, and entice them away. They should not be taken till they are almost as full of feathers as the old ones; and, though they refuse their meat, yet, by opening their bills, you may give them two or three small bits at a time, which will make them soon grow tame, when they will feed themselves. They should be put nest and all into a little basket, which should be covered up warm: and they should be fed every two hours. Their food should be sheep's hearts, or other raw flesh meat, chopped very fine, and all the strings, skins, and fat, taken away. But it should always be mixed with hard hen's eggs, upon which they will feed and thrive abundantly.

They should then be put in cages like the nightingale's back cage, with a little straw or dry moss at

the bottom; but when they are grown large, they should have ant's mold. They should be kept very clean, as indeed should all singing-birds whatsoever; for otherwise they will have the cramp, and perhaps the claws will drop off. In autumn they will sometimes abstain from their food for a fortnight, unless two or three meal-worms be given them twice or thrice a week, or two or three spiders in a day; they must likewise have a little saffron in their water. Figs chopped small among their meat will help them to recover their flesh. When their legs are cramped, they should be anointed with fresh butter, or capon's fat, three or four days together. If they grow melancholy, put white sugar-candy into their water, and feed them with sheep's-heart, giving them a few ants with their eggs.

With regard to adult birds, those that are taken before the twenty-third of April are accounted the best, because after that they begin to pair. They usually haunt woods, coppices, and quickset hedges, where they may be taken in trap-cages baited with meal-worms. They should be placed as near the spot where the bird sings as possible; and before you fix the trap, turn up the earth twice the breadth of the cage, because they will there look for food. They are also taken with lime twigs, placing them upon the hedge where they usually sing; and there should be meal-worms stuck at proper places to draw them into the snare. After they are taken, their wings should be gently tied with thread to prevent their beating themselves against the cage. This should be first hung in a private place, that the bird may not be disturbed; and it should be fed every two hours, at farthest, with sheep's-heart and

egg minced very fine, mixing it with meal-worms. However, the first food must be worms, ants, caterpillars, and flies. You must, to feed the bird, take it in your hand, and open the bill with a stick made thick at one end, giving it the insects, or four or five bits of food as big as peas, to entice it to eat. Its common food should be mixed with ants, so that when the bird goes to pick the ants, it may pick up some of that also. The nightingale, when caged, begins to sing about the latter end of November, and continues its song till June.

CHAP. IV.

Of the Canary-bird, and other hard-billed Singing-birds.

THE Canary-bird is now become so common, and has continued so long in a domestic state, that its native habits, as well as its native country, seem almost forgotten. Though, by the name, it appears that these birds came originally from the Canary Islands, yet we have it only from Germany, where they are bred up in great numbers, and sold into different parts of Europe. At what period they were brought into Europe is not well known; but it is certain that about a century ago they were sold at very high prices, and kept only for the amusement of the great. They have since been multiplied in great abundance; and their price is diminished in proportion to their plenty.

In its native islands, a region equally noted for

the beauty of its landscapes and the harmony of its groves, the canary-bird is of a dusky grey colour, and so different from those usually seen in Europe, that some have even doubted whether it be of the same species. With us, they have that variety of colouring usual in all domestic fowls; some white, some mottled, some beautifully shaded with green; but they are more esteemed for their note than their beauty, having a high piercing pipe, as indeed all those of the finch tribe have, continuing for some time in one breath without intermission, then raising it higher and higher by degrees, with great variety.

It is this that has rendered the canary-bird, next to the nightingale, the most celebrated songster; and, as it is more easily reared than any of the soft-billed birds, and continues its song throughout the year, it is rather the most common in our houses. Rules, therefore, have been laid down, and copious instructions given, for breeding these birds in a domestic state; which, as a part of them may conduce towards the natural history of the bird, I will take leave to transcribe.

In chusing the canary-bird, those are best that appear with life and boldness, standing upright upon the perch like a sparrow-hawk, and not apt to be frighted at every thing that stirs. If its eyes look cheerful, and not drowsy, it is a sign of health; but, on the contrary, if it hides its head under the wing, and gathers its body up, these are symptoms of its being out of order. In chusing them the melody of the song should also be minded: some will open with the notes of the nightingale, and, running through a variety of modulations, end like the tit-lark; others will begin like the

sky-lark, and, by a soft melodious turn, fall into the notes of the nightingale. These are lessons taught this bird in its domestic state, and generally taught it by others; but its native note is loud, shrill, piercing, and enough to deafen the hearers.* There are persons who admire each of these songs, but the second is in the most general estimation.

Canary-birds sometimes breed all the year round; but they most usually begin to pair in April, and to breed in June and August. Those are said to be the best breeders that are produced between the English and the French.

Towards the latter end of March, a cock and a hen should be put together in a small cage, where they will peck at each other in the beginning, but will soon become thoroughly reconciled. The room where they are kept to breed should be so situated as to let the birds have the benefit of the morning sun, and the windows should be of wire, not glass, that they may enjoy the benefit of the air. The floor of the room should be kept clean, and sometimes there should be dry gravel or sand sifted upon it. There should also be two windows, one at each end, and several perches at proper distances for the birds to settle on, as they fly backwards and forwards. A tree in the middle of the room would be the most convenient to divert the birds, and sometimes to serve for building their nests upon.

In Germany they prepare a large room, and build it in the manner of a barn, being much longer than broad, with a square place at each end, and several holes to go into those square places. In those outlets they plant several sorts of trees,

in which the birds take great delight to sing and breed. The bottom of the place they strew with sand, and upon it cast rape-seed, chick-weed and groundsil, which the old birds feed upon while breeding. In the body of the house they put all sorts of stuff for building the nest, and brooms, one under the other, in all the corners, for the birds to build in. These they separate by partitions from each other, to prevent those above flying down upon, or otherwise incommoding, such as breed below. The light also is excluded, for no bird is fond of having light come to its nest.

With us, the apparatus for breeding is less expensive; a little breeding-cage sometimes suffices, but seldom any thing more extensive than a small room. While the birds are pairing it is usual to feed them with soft meat; that is, bread, maw-seed, a little scalded rape-seed, and near a third part of an egg. The room should be furnished with stuff for making their nests; such as fine hay, wool, cotton, and hair. These materials should be thoroughly dry and then mixed and tied together in such a manner that the birds may readily pull out what they want. This should be hung in a proper part of the room, and the male will take his turn in building the nest, sitting upon the eggs, and feeding the young. They are generally two or three days in building their nests; the hen commonly lays five eggs; and in the space of fourteen days the young will be excluded. So prolific are these birds sometimes that the female will be ready to hatch a second brood before the first are able to quit the nest. On these occasions she leaves the nest and the young to provide herself with

another to lay her new brood in. In the mean time, the male, more faithful to the duties of his trust, breeds up the young left behind, and fits them for a state of independence.

When the young ones are excluded, the old ones should be supplied with a sufficiency of soft food every day, with likewise fresh greens, such as cabbage, lettuce, and chick-weed; in June, shepherd's purse; and in July and August, plantain. They are never to have groundsil after the young are excluded. With these different delicacies, the old ones will take particular care to feed and bring up their young; but it is usual, when they can feed themselves, to be taken from the nest and put into cages. Their meat then is the yolk of an egg boiled hard, with an equal quantity of fine bread, and a little scalded rape-seed: this must be bruised till it becomes fine, and then it may be mixed with a little maw-seed; after which, blend all together, which is to be supplied them fresh every day.*

The canary-bird, by being kept in company with the linnet or the gold-finch, pairs and produces a mixed breed, more like the canary-bird, and resembling it chiefly in its song. Indeed, all this tribe with strong bills and piercing notes, and feeding upon grain, have the most strong similitude to each other, and may justly be supposed, as M. Buffon imagines, to come from the same original. They all breed about the same time; they frequent the same vegetables; they build in the same hedges and trees; and are brought up for the cage with the same food and precautions. The linnet, the bull-finch, and the gold-finch when we know the history of the canary-bird, have scarcely any pecu-

liarities that can attract our curiosity, or require our care. The only art necessary with all those that have no very fine note is to breed them up under some more pleasing harmonist. The gold-finch learns a fine song from the nightingale; and the linnet and bull-finch may be taught, forgetting the wild notes of nature, to whistle a long and regular tune.

CHAP. V.

Of the Swallow, and its Affinities.

AN idea of any one bird in the former classes will give us some tolerable conception of the rest. By knowing the linnet, or the canary-bird, we have some notion of the manners of the gold-finch; by exhibiting the history of the nightingale, we see also that of the black-cap or the tit-mouse. But the swallow tribe seems to be entirely different from all the former: different in their form, different in their habits, and unlike in all the particulars of their history.

In this tribe is to be found the Goat-sucker, which may be stiled a nocturnal swallow: it is the largest of this kind, and is known by its tail, which is not forked like that of the common swallow. It begins its flight at evening, and makes a loud singular noise, like the whur of a spinning-wheel. To this also belongs the House-Swallow, which is too well known to need a description: the Mart[illegible] inferior in size to the former, and the tail much less forked;

it differs also in its nest, which is covered at top, while that of the house-swallow is open: and the Swift, rather larger than the house-swallow, with all the toes standing forward; in which it differs from the rest of its kind. All these resemble each other so strongly, that it is not without difficulty the smaller kinds are known asunder.

These are all known by their very large mouths, which, when they fly, are always kept open; they are not less remarkable for their short slender feet, which scarce are able to support the weight of their bodies; their wings are of immoderate extent for their bulk; their plumage is glossed with a rich purple; and their note is a slight twittering, which they seldom exert but upon the wing.

This peculiar conformation seems attended with a similar peculiarity of manners. Their food is insects, which they always pursue flying. For this reason, during fine weather, when the insects are most likely to be abroad, the swallows are for ever upon the wing, and seen pursuing their prey with amazing swiftness and agility. All smaller animals, in some measure, find safety by winding and turning, when they endeavour to avoid the greater: the lark thus evades the pursuit of the hawk; and man the crocodile. In this manner, insects upon the wing endeavour to avoid the swallow; but this bird is admirably fitted by nature to pursue them through their shortest turnings. Besides a great length of wing, it is also provided with a long tail, which, like a rudder, turns it in its most rapid motions; and thus, while it is possessed of the greatest swiftness, it is also possessed of the most extreme agility.

Early, therefore, in the spring, when the return-

ing sun begins to rouse the insect tribe from their annual state of torpidity, when the gnat and the beetle put off their earthly robes and venture into air, the swallow then is seen returning from its long migration beyond the ocean, and making its way feebly to the shore. At first, with the timidity of a stranger, it appears but seldom, and flies but slowly and heavily along. As the weather grows warmer, and its insect supply increases, it then gathers greater strength and activity. But it sometimes happens that a rainy season, by repelling the insects, stints the swallow in its food; the poor bird is then seen slowly skimming along the surface of the ground, and often resting after a flight of a few minutes. In general, however, it keeps on the wing, and moving with a rapidity that nothing can escape. When the weather promises to be fair, the insect tribe feel the genial influence, and make bolder flights; at which time the swallow follows them in their aerial journeys, and often rises to imperceptible heights in the pursuit. When the weather is likely to be foul, the insects feel the first notices of it; and from the swallow's following low we are often apprized of the approaching change.

When summer is fairly begun, and more than a sufficient supply for sustaining the wants of nature every where offers, the swallow then begins to think of forming a progeny. The nest is built with great industry and art; particularly by the common swallow, which builds it on the tops of chimnies. The martin sticks it to the eaves of houses. The goatsucker, as we are told, builds it on the bare ground. This nest is built with mud from some neighbouring brook, well tempered with the bill, moistened with

water for the better adhesion; and still farther kept firm, by long grass and fibres; within it is lined with goose-feathers, which are ever the warmest and the neatest. The martin covers its nest at top, and has a door to enter at; the swallow leaves her's quite open. But our European nests are nothing to be compared with those the swallow builds on the coasts of China and Coromandel; the description of which I will give in the plain honest phrase of Willughby. "On the sea-coast of the kingdom of "China," says he, "a sort of party-coloured birds, "of the shape of swallows, at a certain season of "the year, which is their breeding time, come out "of the midland country to the rocks, and from the "foam or froth of the sea-water dashing against "the bottom of the rocks, gather a certain clammy, "glutinous matter, perchance the spawn of whales "and other young fishes, of which they build their "nests, wherein they lay their eggs, and hatch "their young. These nests the Chinese pluck "from the rocks, and bring them, in great num-"bers, into the East-Indies to sell. They are "esteemed, by gluttons, as great delicacies; who, "dissolving them in chicken or mutton-broth, are "very fond of them; far before oysters; mush-"rooms, or other dainty and lickorish morsels." What a pity this luxury hath not been introduced among us; and then our great feasters might be enabled to eat a little more! *

[* Sir George Staunton in his account of the embassy to China, says that in the Cass, a small island near Sumatra, were found two caverns, running horizontally into the side of the rock; in which were a number of these nests so much prized by the Chinese epicures. "They seemed to be composed of fine filaments

The swallow usually lays from five to six eggs, of a white colour, speckled with red; and sometimes breeds twice a year. When the young brood

cemented together by a transparent viscous matter, not unlike what is left by the foam of the sea, or those gelatinous animal substances found floating on every coast. The nests adhere together, and to the sides of the cavern mostly in rows without any break or interruption. The birds that build these nests are small grey swallows with bellies of a dirty white. They were flying about in considerable numbers; but they were so small, and their flight was so quick, that they escaped the shot fired at them. They feed on insects, which they find hovering over stagnated holes, and for the catching of which their wide opening beaks are particularly adapted. Their greatest enemy is the kite, who often intercepts them in their passage to and from the caverns. The nests are placed in horizontal rows, at depths of fifty to five hundred feet: and these nests are prepared from the best remains of their food. The colour and value of the nests depend on the quantity and quality of the insects caught; and perhaps also on the situation where they are built: those that are white and transparent being most esteemed, and fetching often in China their weight in silver.

These nests are a considerable object of traffic among the Javanese; many of whom are employed in it from their infancy. The birds, after having spent nearly two months in preparing their nests, lay each two eggs, which are hatched in about fifteen days. When the young birds become fledged, it is thought the proper time to seize upon their nests; which is done regularly three times a year, and is effected by means of ladders of bamboo and reeds, by which these people descend into the caverns: but when these are very deep, rope ladders are preferred. This operation is attended with much danger; and several perish in the attempt. The inhabitants of the mountains generally employed in this business, begin always by sacrificing a buffalo; which custom is observed by the Javanese on the eve of every extraordinary enterprise. They also pronounce some prayers, anoint themselves with sweet scented oil, and smoke the entrance of the cavern with gum benjamin; near some of the caverns a tutelary goddess is worshipped, whose priest burns incense, and lays his protecting

are excluded, the swallow supplies them very plentifully, the first brood particularly, when she finds herself capable of producing two broods in a year. This happens when the parents come early, when the season is peculiarly mild, and when they begin to pair soon. Sometimes they find a difficulty in rearing even a single nest, particularly when the weather has been severe, or their nests have been robbed in the beginning of the season. By these accidents, this important task is sometimes deferred to the middle of September.

At the latter end of September they leave us; and for a few days previous to their departure, assemble, in vast flocks, on house-tops, as if deliberating on the fatiguing journey that lay before them. This is no slight undertaking, as their flight is directed to Congo, Senegal, and along the whole Morocco shore. There are some, however, left behind in this general expedition, that do not part till eight or ten days after the rest. These are chiefly the latter weakly broods, which are not yet in a condition to set out. They are sometimes even too feeble to venture, till the setting in of winter: while their parents vainly exhort them to efforts which instinct assures them they are incapable of performing. Thus it often happens, that the wretched little families, being compelled to stay, perish the first cold weather that comes; while the tender parents share the fate of their offspring, and die with their new-fledged brood.

hands on every person preparing to descend. A flambeaux is carefully prepared at the same time, with a gum which exudes from a tree growing in the vicinity; and which is not easily extinguished by fixed air or subterraneous vapour."]

Those that migrate are first observed to arrive in Africa, as Mr. Adanson assures us, about the beginning of October. They are thought to have performed their fatiguing journey in the space of seven days. They are sometimes seen, when interrupted by contrary winds, wavering in their course far off at sea, and lighting upon whatever ship they find in their passage. They then seem spent with famine and fatigue, yet still they boldly venture, when refreshed by a few hours rest, to renew their flight, and continue the course which they had been steering before.

These are facts proved by incontestible authority; yet it is a doubt whether all swallows migrate in this manner, or whether there may not be some species of this animal that, though externally alike, are so internally different, as to be very differently affected by the approach of winter. We are assured, from many, and these not contemptible witnesses, that swallows hide themselves in holes under ground, joined close together, bill against bill, and feet against feet. Some inform us that they have seen them taken out of the water, and even from under the ice, in bunches, where they are asserted to pass the winter without motion. Reaumur, who particularly interested himself in this enquiry, received several accounts of bundles of swallows being thus found in quarries and under the water. These men, therefore, have a right to some degree of assent; and are not to lose all credit from our ignorance of what they aver.

All, however, that we have hitherto dissected, are formed within like other birds, [illegible] seem to offer no observable variety. Indeed, that they do

not hide themselves under water, has been pretty well proved, by the noted experiment of Frisch, who tied several threads died in water-colours, round the legs of a great number of swallows, that were preparing for their departure: these, upon their return the ensuing summer, brought their threads back with them, no way damaged in their colour; which they most certainly would, if, during the winter, they had been steeped in water: yet still this is a subject on which we must suspend our assent, as Klein, the naturalist, has brought such a number of proofs, in defence of his opinion, that swallows are torpid in winter, as even the most incredulous must allow to have some degree of probability.

CHAP. VI.

Of the Humming-bird, and its Varieties.

HAVING given some history of the manners of the most remarkable birds of which accounts can be obtained, I might now go to a very extensive tribe, remarkable for the splendour and the variety of their plumage: but the description of the colours of a beautiful bird has nothing in it that can inform or entertain; it rather excites a longing, which it is impossible for words to satisfy. Naturalists, indeed, have endeavoured to satisfy this desire, by coloured prints; but, beside that these at best give only a faint resemblance of nature, and are a very indifferent kind of painting, the bird itself

has a thousand beauties, that the most exquisite artist is incapable of imitating. They, for instance, who imagine they have a complete idea of the beauty of the little tribe of Manikin birds, from the pictures we have of them, will find themselves deceived, when they compare their drafts with nature. The shining greens, the changeable purples, and the glossy reds, are beyond the reach of the pencil; and very far beyond the coloured print, which is but a poor substitute to painting. I have therefore declined entering into a minute description of foreign birds of the sparrow kind; as sounds would never convey an adequate idea of colours.

There is one species, however, that I will conclude the history of this class with; as, though the least, it will certainly be allowed the most beautiful of all others. In quadrupeds, the smallest animals are noxious, ugly, and loathsome; the smallest of birds are the most beautiful, innocent, and sportive. Of all those that flutter in the garden, or paint the landscape, the Humming-bird is the most delightful to look upon, and the most inoffensive.

Of this charming little animal, there are six or seven varieties, from the size of a small wren, down to that of an humble-bee. An European could never have supposed a bird existing so very small, and yet completely furnished out with a bill, feathers, wings, and intestines, exactly resembling those of the largest kind. A bird not so big as the end of one's little finger, would probably be supposed but a creature of imagination, were it not seen in infinite numbers, and as frequent as butter-

flies in a summer's day, sporting in the fields of America, from flower to flower, and extracting their sweets with its little bill.

The smallest humming-bird is about the size of an hazel-nut. The feathers on its wings and tail are black; but those on its body, and under its wings, are of a greenish brown, with a fine red cast or gloss, which no silk or velvet can imitate. It has a small crest on its head, green at the bottom, and as it were gilded at the top; and which sparkles in the sun like a little star in the middle of its forehead. The bill is black, straight, slender, and of the length of a small pin. The larger humming-bird is near half as big as the common wren, and without a crest on its head; but, to make amends, it is covered from the throat half way down the belly, with changeable crimson-coloured feathers, that, in different lights, change to a variety of beautiful colours, much like an opal. The heads of both are small, with very little round eyes as black as jet.

It is inconceivable how much these add to the high finishing and beauty of a rich luxurious western landscape. As soon as the sun is risen, the humming-birds, of different kinds, are seen fluttering about the flowers, without ever lighting upon them. Their wings are in such rapid motion, that it is impossible to discern their colours, except by their glittering. They are never still, but continually in motion, visiting flower after flower, and extracting its honey as if with a kiss. For this purpose they are furnished with a forky tongue, that enters the cup of the flower, and extracts its nectared tribute. Upon this alone they subsist. The rapid motion of

their wings brings out an humming sound, from whence they have their name; for whatever divides the air swiftly, must thus produce a murmur.

The nests of these birds are not less curious than the rest: they are suspended in the air, at the point of the twigs of an orange, a pomegranate, or a citron-tree; sometimes even in houses, if they find a small and convenient twig for the purpose. The female is the architect, while the male goes in quest of materials; such as cotton, fine moss, and the fibres of vegetables. Of these materials a nest is composed, of about the size of an hen's egg cut in two, admirably contrived, and warmly lined with cotton. They lay two eggs at a time, and never more, about the size of small peas, and as white as snow, with here and there a yellow speck. The male and the female sit upon the nest by turns; but the female takes to herself the greatest share. She seldom quits the nest, except a few minutes in the morning and evening, when the dew is upon the flowers, and their honey in perfection. During this short interval, the male takes her place; for, as the egg is so small, the exposing it ever so short a time to the weather, would be apt to injure its contents, the surface exposed being so great in comparison to the bulk. The time of incubation continues twelve days; at the end of which the young ones appear, much about the size of a blue-bottle fly. They are at first bare; by degrees they are covered with down; and, at last, feathers succeed, but less beautiful at first than those of the old ones.

" Father Labat's companion, in the mission to " America, found the nest of an humming-bird,

" in a shed that was near the dwelling-house, and " took it in, at a time when the young ones were " about fifteen or twenty days old; he then placed " them in a cage at his chamber-window, to be " amused by their sportive flutterings: but he was " soon surprised to see the old ones, that came " and fed their brood regularly every hour in the " day. By these means they themselves soon grew " so tame that they seldom quitted the chamber; " but, without any constraint, came to live with " their young ones. All four have frequently come " to perch upon their master's hand, chirruping as " if they had been at liberty abroad. He fed them " with a very fine clear paste, made of wine, biscuit, " and sugar. They thrust their tongues into this " paste, till they were satisfied, and then fluttered " and chirruped about the room. I never beheld " any thing more agreeable," continues he, " than " this lovely little family, that had taken possession " of my companion's chamber, and that flew out " and in, just as they thought proper; but were " ever attentive to the voice of their master, when " he called them. In this manner they lived with " him for above six months; but, at a time when " he expected to see a new colony formed, he un" fortunately forgot to tie up their cage to the " ceiling at night, to preserve them from the rats, " and he found they were devoured in the morn" ing."

These birds, on the continent of America, continue to flutter the year round; as their food, which is the honey of flowers, never forsakes them in those warm latitudes where they are found. But it is otherwise in the islands of the Antilles, where,

when the winter season approaches, they retire, and, as some say, continue in a torpid state during the severity of that season. At Surinam and Jamaica, where they constantly have flowers, these beautiful birds are never known to disappear.

It is a doubt whether or not these birds have a continued note of singing. All travellers agree that, beside the humming noise produced by their wings, they have a little interrupted chirrup; but Labat asserts, that they have a most pleasing melancholy melody in their voices, though small and proportioned to the organs which produce it. It is very probable that, in different places, their notes are also different; and as there are some that continue torpid all the winter, there may likewise be some with agreeable voices, though the rest may in general be silent.

The Indians formerly made great use of this pretty bird's plumage, in adorning their belts and head-dress. The children take them in the fields upon rings smeared with bird-lime: they approach the place where the birds are flying, and twirling their rings in the air, so allure them, either by the colour or the sound, that the simple little creature comes to rest upon the ring, and is seized. They are then instantly killed and gutted, and hung up in the chimney to dry. Those who take greater care, dry them in a stove, which is not so likely to injure the plumage as the foregoing method. Their beautiful feathers were once the ornament of the highest rank of savage nobility: but at present, they take the bird rather for the purpose of selling it as a curiosity to the Europeans, than that of ornament for themselves. All the taste for savage finery

is wearing out fast, even among the Americans. They now begin to adopt, if not the dresses of Europe, at least the materials of which they are composed. The wandering warrior is far from thinking himself fine at present with his bow and his feathered crown; his ambition reaches to higher ornaments; a gun, a blue-shirt, and a blanket.

OF
BIRDS
OF THE
CRANE KIND.
PART V.

CHAP. I.

Of Birds of the Crane Kind in General.

THE progressions of Nature from one class of beings to another, are always by slow and almost imperceptible degrees. She has peopled the woods and the fields with a variety of the most beautiful birds ; and, to leave no part of her extensive territories untenanted, she has stocked the waters with its feathered inhabitants also : she has taken the same care in providing for the wants of her animals in this element, as she has done with respect to those of the other : she has used as much precaution to render water-fowl fit for swimming, as she did in forming land-fowl for flight : she has defended their feathers with a natural oil, and united their toes by a webbed membrane ; by which contrivances they have at once security and motion. But between the classes of land-birds that shun the water, and of water-fowl that are made for swimming and living on it, she has formed a very numerous tribe of birds, that seem to partake of a middle nature ; that, with divided toes, seemingly fitted to live upon land, are at the same time furnished with appetites that chiefly attach them to the waters. These can properly be called neither land-birds nor water-fowl, as they provide all their sustenance from watery places, and yet are unqualified to seek it in those depths where it is often found in greatest plenty.

This class of birds, of the crane kind, are to be

distinguished from others rather by their appetites than their conformation. Yet even in this respect they seem to be sufficiently discriminated by nature: as they are to live among the waters, yet are incapable of swimming in them, most of them have long legs, fitted for wading in shallow waters, or long bills proper for groping in them.

Every bird of this kind, habituated to marshy places, may be known, if not by the length of its legs, at least by the scaly surface of them. Those who have observed the legs of a snipe or a woodcock, will easily perceive my meaning; and how different the surface of the skin that covers them is from that of the pigeon or the partridge. Most birds of this kind also, are bare of feathers half way up the thigh; at least, in all of them, above the knee. Their long habits of wading in the waters, and having their legs continually in moisture, prevents the growth of feathers on those parts; so that there is a surprising difference between the leg of a crane, naked of feathers almost up to the body, and the falcon, booted almost to the very toes.

The bill also is very distinguishable in most of this class. It is, in general, longer than that of other birds, and in some finely fluted on every side; while at the point it is possessed of extreme sensibility, and furnished with nerves, for the better feeling their food at the bottom of marshes, where it cannot be seen. Some birds of this class are thus fitted with every convenience: they have long legs, for wading; long necks, for stooping; long bills, for searching; and nervous points, for feeling. Others are not so amply provided for; as some have long bills, but legs of no great length; and others

have long necks, but very short legs. It is a rule which universally holds, that where the bird's legs are long, the neck is also long in proportion. It would indeed be an incurable defect in the bird's conformation, to be lifted upon stilts above its food, without being furnished with an instrument to reach it.

If we consider the natural power of this class, in a comparative view, they will seem rather inferior to those of every other tribe. Their nests are more simple than those of the sparrow; and their methods of obtaining food less ingenious than those of the falcon: the pie exceeds them in cunning; and though they have all the voraciousness of the poultry tribe, they want their fecundity. None of this kind, therefore, have been taken into man's society, or under his protection; they are neither caged, like the nightingale; nor kept tame, like the turkey; but lead a life of precarious liberty, in fens and marshes, at the edges of lakes, and along the sea-shore. They all live upon fish or insects, one or two only excepted; even those that are called mudsuckers, such as the snipe and the woodcock, it is more than probable, grope the bottom of marshy places only for such insects as are deposited there by their kind, and live in a vermicular state, in pools and plashes, till they take wing, and become flying insects.

All this class, therefore, that are fed upon insects, their food being easily digestible, are good to be eaten; while those who live entirely upon fish, abounding in oil, acquire in their flesh the rancidity of their diet, and are, in general, unfit for our tables. Th[illegible]ges indeed, and sailors on a long voyage,

every thing that has life seems good to be eaten; and we often find them recommending those animals as dainties, which they themselves would spurn at, after a course of good living. Nothing is more common in their journals than such accounts as these—" This day we shot a fox—pretty good " eating: this day we shot a heron—pretty good " eating; and this day we killed a turtle—— " which they rank with the heron and the fox, as " pretty good eating." Their accounts, therefore, of the flesh of these birds, are not to be depended upon; and when they cry up the heron or the stork of other countries as luxurious food, we must always attend to the state of their appetites who give the character.

In treating of this class of birds, it will be best to observe the simplest method possible; neither to load the memory with numerous distinctions, nor yet confuse the imagination, by a total want of arrangement. I will therefore describe some of the larger sorts separately; as in an history of birds, each of these demands peculiar distinction. The crane, the stork, the Balearic crane, the heron, the bittern, with some others, may require a separate history. Some particular tribes may next offer, that may very naturally be classed together; and as for all the smaller and least remarkable sorts, they may be grouped into one general description.

CHAP. II.

The Crane.

THERE is something extraordinary in the different accounts we have of this bird's size and dimensions. Willughby and Pennant make the crane from five to six feet long, from the tip to the tail. Other accounts say, that it is above five feet high; and others, that it is as tall as a man. From the many which I myself had seen, I own this imputed magnitude surprised me; as from memory I was convinced, they could neither be so long nor so tall. Indeed, a bird, the body of which is not larger than that of a turkey-hen, and acknowledged on all hands not to weigh above ten pounds, cannot easily be supposed to be almost as long as an ostrich. Brisson, however, seems to give this bird its real dimensions, when he describes it as something less than the brown stork, about three feet high, and about four from the tip to the tail. Still, however, the numerous testimonies of its superior size are not to be totally rejected; and perhaps, that from which Brisson took his dimensions, was one of the smallest of the kind.

The crane, taking its dimensions from him, is exactly three feet four inches from the tip to the tail, and four feet from the head to the toe. It is a tall, slender bird, with a long neck and long legs. The top of the head is covered with black bristles, and the back of it is bald and red, which sufficiently distinguishes this bird from the stork, to which it is

very nearly allied in size and figure. The plumage, in general, is ash-coloured; and there are two large tufts of feathers, that spring from the pinion of each wing. These bear a resemblance to hair, and are finely curled at the ends, which the bird has a power of erecting and depressing at pleasure. Gesner says, that these feathers, in his time, used to be set in gold, and worn as ornaments in caps.

Such are the dimensions of a bird, concerning which, not to mention modern times, there have been more fables propagated than of any other. It is a bird with which all the ancient writers are familiar; and, in describing it, they have not failed to mix imagination with history. From the policy of the cranes, they say, we are to look for an idea of the most perfect republic amongst ourselves; from their tenderness to their decrepit parents, which they take care to nourish, to cherish, and support when flying, we are to learn lessons of filial piety; but particularly from their conduct in fighting with the pigmies of Ethiopia, we are to receive our maxims in the art of war. In early times, the history of nature fell to the lot of poets only, and certainly none could describe it so well; but it is a part of their province to embellish also; and when this agreeable science was claimed by a more sober class of people, they were obliged to take the accounts of things as they found them; and, in the present instance, fable ran down, blended with truth, to posterity.

In these accounts, therefore, there is some foundation of truth, yet much more has been added by fancy. The crane is certainly a very social bird,

and they are seldom seen alone. Their usual method of flying or sitting is in flocks of fifty or sixty together; and while a part feed, the rest stand like centinels upon duty. The fable of their supporting their aged parents, may have arisen from their strict connubial affection; and as for their fighting with the pigmies, it may not be improbable but that they have boldly withstood the invasions of monkies coming to rob their nests; for, in this case, as the crane lives upon vegetables, it is not probable that it would be the first aggressor.

However this be, the crane is a wandering, sociable bird, that, for the most part, subsists upon vegetables; and is known in every country of Europe, except our own. There is no part of the world, says Belonius, where the fields are cultivated, that the crane does not come in with the husbandman for a share in the harvest. As they are birds of passage, they are seen to depart and return regularly at those seasons when their provision invites or repels them. They generally leave Europe about the latter end of autumn, and return in the beginning of summer. In the inland parts of the continent, they are seen crossing the country, in flocks of fifty or an hundred, making from the northern regions towards the south. In these migrations, however, they are not so resolutely bent upon going forward, but that if a field of corn offers in their way, they will stop a while to regale upon it: on such occasions they do incredible damage, chiefly in the night; and the husbandman, who lays down in joyful expectation, rises in the morning to see his fields laid entirely waste, by an enemy, whose

march is too swift for his vengeance to overtake.

Our own country is free from their visits; not but that they were formerly known in this island, and held in great estimation, for the delicacy of their flesh: there was even a penalty upon such as destroyed their eggs; but, at present, they never go so far out of their way. Cultivation and populousness go hand in hand; and though our fields may offer them a greater plenty, yet it is so guarded, that the birds find the venture greater than the enjoyment; and probably we are much better off by their absence than their company. Whatever their flesh might once have been, when, as Plutarch tells us, cranes were blinded and kept in coops, to be fattened for the tables of the great in Rome; or, as they were brought up, stuffed with mint and rue, to the tables of our nobles at home; at present, they are considered all over Europe as wretched eating. The flesh is fibrous and dry, requiring much preparation to make it palatable; and even after every art, it is fit only for the stomachs of strong and labouring people.

The cold arctic region seems to be this bird's favourite abode. They come down into the more southern parts of Europe rather as visitants than inhabitants; yet it is not well known in what manner they portion out their time, to the different parts of the world. The migrations of the fieldfare or thrush, are obvious, and well known; they go northward or southward, in one simple track; when their food fails them here, they have but one region to go to. But it is otherwise with the crane; he changes place, like a wanderer; he

spends the autumn in Europe; he then flies off, probably to some more southern climate, to enjoy a part of the winter; returns to Europe in the spring; crosses up to the north in summer; visits those lakes that are never dry; and then comes down again, to make depredations upon our cultivated grounds, in autumn. Thus, Gesner assures us, that the cranes usually began to quit Germany, from about the eleventh of September to the seventeenth of October; from thence they were seen flying southward by thousands; and Redi tells us, they arrive in Tuscany a short time after. There they tear up the fields, newly sown, for the grain just committed to the ground, and do great mischief. It is to be supposed that, in the severity of winter, they go southward, still nearer the line. They again appear in the fields of Pisa, regularly about the twentieth of February, to anticipate the spring.

In these journeys it is amazing to conceive the heights to which they ascend, when they fly. Their note is the loudest of all other birds; and that is often heard in the clouds, when the bird itself is entirely unseen. As it is light for its size, and spreads a large expanse of wing, it is capable of floating, at the greatest height, where the air is lightest; and as it secures its safety, and is entirely out of the reach of man, it flies in tracts which would be too fatiguing for any other birds to move forward in.

In these aerial journeys, though unseen themselves, they have the distinctest vision of every object below. They govern and direct their flight by their cries; and exhort each other to proceed

or to descend, when a fit opportunity offers for depredation. Their voice, as was observed, is the loudest of all the feathered tribe; and its peculiar clangor arises from the very extraordinary length and contortion of the windpipe. In quadrupeds, the windpipe is short, and the glottis, or cartilages that form the voice, are at that end of it which is next the mouth: in water-fowl the windpipe is longer, but the cartilages that form the voice are at the other end, which lies down in their belly. By this means they have much louder voices, in proportion to their size, than any other animals whatever; for the note, when formed below, is reverberated through all the rings of the windpipe, till it reaches the air. But the voice of the duck or the goose, is nothing to be compared to that of the crane, whose windpipe is not only made in the same manner with theirs, but is above twenty times as long. Nature seems to have bestowed much pains in lengthening out this organ. From the outside, it enters through the flesh into the breast-bone, which hath a great cavity within to receive it. There, being thrice reflected, it goes out again at the same hole, and so turns down to the lungs, and thus enters the body a second time. The loud clangorous sound which the bird is thus enabled to produce, is, when near, almost deafening: however, it is particularly serviceable to the animal itself, either during its migrations or its stay: by it the flock is encouraged in their journies; and if, while they are feeding, which is usually performed in profound silence, they are invaded on any side, the bird that first perceives the danger, is sure to

sound the alarm, and all are speedily upon the wing.

As they rise but heavily, they are very shy birds, and seldom let the fowler approach them. Their depredations are usually made in the darkest nights; at which time they enter a field of corn, and trample it down, as if it had been crossed over by a regiment of men. On other occasions, they chuse some extensive solitary marsh, where they range themselves all day, as if they were in deliberation; and not having that grain which is most to their appetites, wade the marshes, for insects, and other food, which they can procure with less danger.

Corn is their favourite food; but there is scarcely any other that comes amiss to them. Redi, who opened several, found the stomach of one full of the herb called dandelion; that of another was filled with beans; a third had a great quantity of clover in its stomach; while that of two others was filled with earth-worms and beetles: in some he found lizards and sea-fish; in others, snails, grass, and pebbles, swallowed, perhaps, for medicinal purposes. It seems, therefore, that these birds are easily supplied; and that they are noxious to corn-fields but on some particular occasions.

In general it is a peaceful bird, both in its own society, and with respect to those of the forest. Though so large in appearance, a little falcon pursues, and often disables it. The method is, with those who are fond of hawking, to fly several hawks together against it; which the crane endeavours to avoid, by flying up perpendicularly, till the air becomes too thin to support it any higher.

The hawk, however, still bears it company; and though less fitted for floating in so thin a medium, yet, possessed of greater rapidity, it still gains the ascendency. They both often rise out of sight; but soon the spectator, who keeps his eye fixed above, perceives them, like two specks, beginning to appear: they gather on his eye for a little space, and shortly after come tumbling perpendicularly together, with great animosity on the side of the hawk, and a loud screaming on that of the crane. Thus driven to extremity, and unable to fly, the poor animal throws itself upon its back, and in that situation makes a most desperate defence; till the sportsman coming up, generally puts an end to the contest with its life.

It was once the barbarous custom to breed up cranes to be thus baited; and young ones were taken from the nest, to be trained up for this cruel diversion. It is an animal easily tamed; and, if we can believe Albertus Magnus, has a particular affection for man. This quality, however, was not sufficient to guard it from being made the victim of his fierce amusements. The female, which is easily distinguished from the male, by not being bald behind as he is, never lays above two eggs at a time; being like those of a goose, but of a bluish colour. The young ones are soon fit to fly, and then the parents forsake them to shift for themselves; but, before this time, they are led forth to the places where their food is most easily found. Though yet unfledged, they run with such swiftness that a man cannot easily overtake them. We are told, that as they grow old, their plumage becomes darker; and, as a proof of their longevity,

Aldrovandus assures us, that a friend of his kept one tame for above forty years.

Whatever may have been the disposition of the great, the vulgar of every country, to this day, bear the crane a compassionate regard. It is possible the ancient prejudices in its favour, which once having been planted, are eradicated but slowly, may still continue to operate. In some countries it is considered as an heinous offence to kill a crane; and though the legislature declines to punish, yet the people do not fail to resent, the injury. The crane, they, in some measure, consider as the prophet of the season: upon its approach or delay they regulate the periods of their rural œconomy. If their favourite bird comes early in the season, they expect a plentiful summer; if he is slow in his visits, they then prepare for an unfavourable spring. Whatever wisdom there may be in despising the prejudices of the vulgar, there is but little in condemning them. They have generally had their origin in good motives; and it should never be our endeavours to suppress any tender emotions of friendship or pity, in those hard breasts that are, in general, unsusceptible of either.

CHAP. III.

The Stork.

IF we regard the Stork externally only, we shall be very apt to confound it with the crane. It is of the same size; it has the same formation as to

the bill, neck, legs, and body, except that it is something more corpulent. Its differences are but very slight; such as the colour, which in the crane is ash and black, but in the stork is white and brown. The nails of the toes of the stork also are very peculiar, not being clawed like those of other birds, but flat like the nails of a man.

These, however, are but very slight differences; and its true distinctions are to be taken rather from its manners than its form. The crane has a loud piercing voice; the stork is silent, and produces no other noise than the clacking of its under chap against the upper: the crane has a strange convolution of the wind-pipe through the breast-bone; the stork's is formed in the usual manner: the crane feeds mostly upon vegetables and grain; the stork preys entirely upon frogs, fishes, birds, and serpents: the crane avoids towns and populous places; the stork lives always in or near them: the crane lays but two eggs, and the stork generally four. These are distinctions fully sufficient to mark the species, notwithstanding the similitude of their form.

Storks are birds of passage, like the former; but it is hard to say whence they come, or whither they go. When they withdraw from Europe, they all assemble on a particular day, and never leave one of their company behind them. They take their flight in the night; which is the reason the way they go has never been observed. They generally return into Europe in the middle of March, and make their nests on the tops of chimnies and houses as well as of high trees. The females lay from two to four eggs, of the size and

colour of those of geese; and the male and female sit upon them by turns. They are a month in hatching; and when their young are excluded, they are particularly solicitous for their safety*.

As the food of these birds consists in a great measure of frogs and serpents, it is not to be wondered at that different nations have paid them a particular veneration. The Dutch are very solicitous for the preservation of the stork in every part of their republic. This bird seems to have taken refuge among their towns; and builds on the tops of their houses without any molestation. There it is seen resting familiarly in their streets, and protected as well by the laws as the prejudices of the people. They have even got an opinion that it will only live in a republic; and that story of its filial piety, first falsely propagated of the crane, has in part been ascribed to the stork. But it is not in republics alone that the stork is seen to reside, as there are few towns on the continent, in low marshy situations, but have the stork as an

* [Storks take their departure from Europe in the autumn, and pass into Egypt and the marshes of Barbary: there they enjoy a second summer, and there they pair, lay again, and bring up a second brood. Mrs. Starke, in her Letters on Italy, mentions a singular instance of the sagacity of these birds. "A wild stork was brought by a farmer, in the neighbourhood of Hamburg, into his poultry-yard, to be the companion of a tame one he had long kept there: but the tame stork disliking a rival, fell upon the poor stranger, and beat him so unmercifully, that he was compelled to take wing and escaped with difficulty. About four months afterwards, however, he returned to the poultry-yard, recovered of his wounds, and attended by three other storks; who no sooner alighted, than they altogether fell upon the tame stork and killed him."]

inmate among them; as well the despotic princes of Germany as the little republics of Italy.

The stork seems a general favourite even among the moderns; but with the ancient Egyptians their regard was carried even to adoration. This enlightened people, who worshipped the Deity in his creatures, paid divine honours to the ibis, as is universally known. It has been usually supposed that the ancient ibis is the same with that which goes at present by the same name; a bird of the stork kind, of about the size of a curlew, all over black, with a bill very thick in the beginning, but ending in a point, for the better seizing its prey, which is caterpillars, locusts, and serpents. But, however useful the modern ibis may be in ridding Egypt, where it resides, of the vermin and venomous animals that infest it; yet it is much doubted whether this be the same ibis to which the ancients paid their adoration. Maillet, the French consul at Cairo, observes, that it is very hard to determine what bird the ancient ibis certainly was, because there are cranes, storks, hawks, kites, and falcons, that are all equal enemies to serpents, and devour a vast number. He farther adds, that in the month of May, when the winds begin to blow from the internal parts of Africa, there are several sorts of birds that come down from Upper Egypt, from whence they are driven by the rains, in search of a better habitation, and that it is then they do this country such signal services. Nor does the figure of this bird hieroglyphically represented on their pillars mark it sufficiently to make the distinction. Besides, the modern ibis is not peculiar to Egypt, as it is to be

seen but at certain seasons of the year; whereas we are informed by Pliny, that this bird was seen no where else. It is thought, therefore, that the true ibis is a bird of the vulture kind, described above, and called by some the capon of Pharaoh, which not only is a devourer of serpents, but will follow the caravans that go to Mecca, to feed upon the offal of the animals that are killed on the journey.*

CHAP. IV.

Of the Balearic and other foreign Cranes.

HAVING ended the last chapter with doubts concerning the ibis, we shall begin this with doubts concerning the Balearic Crane. Pliny has described a bird of the crane kind with a topping resembling that of the green wood-pecker. This bird for a long time continued unknown, till we became acquainted with the birds of tropical climates, when one of the crane kind, with a topping,

* [The true ibis of the ancients differs from the stork, in having a long awl-shaped slightly curved bill, without the furrow from the nostrils observable in the stork: the face is likewise destitute of feathers; and it has a naked jugular pouch. The body is of a whitish rufous colour, with black quill-feathers; the face is red, and the bill pale yellow. It inhabits, in vast flocks, the lower parts of Egypt, which, after the inundation of the Nile, is infested with swarms of reptiles and noxious insects: these it destroys with great expedition, and is for this reason held sacred by the Egyptians. It is nearly forty inches long, and rests in an erect posture.]

was brought into Europe, and described by Aldrovandus as Pliny's Balearic Crane. Hence these birds, which have since been brought from Africa and the East in numbers, have received the name of Balearic Cranes, but without any just foundation. The real Balearic Crane of Pliny seems to be the lesser ash-coloured heron, with a topping of narrow white feathers, or perhaps the egret, with two long feathers that fall back from the sides of the head. The bird that we are about to describe under the name of the Balearic Crane was unknown to the ancients; and the heron or egret ought to be reinstated in their just title to that name.

When we see a very extraordinary animal, we are naturally led to suppose that there must be something also remarkable in its history to correspond with the singularity of its figure. But it often happens that history fails on those occasions where we most desire information. In the present instance, in particular, no bird presents to the eye a more whimsical figure than this, which we must be content to call the Balearic Crane. It is pretty nearly of the shape and size of the ordinary crane, with long legs and a long neck, like others of the kind; but the bill is shorter, and the colour of the feathers of a dark greenish grey. The head and throat form the most striking part of this bird's figure. On the head is seen standing up a thick round crest, made of bristles, spreading every way, and resembling rays standing out in different directions. The longest of these rays are about three inches and a half; and they are all topped with a kind of black tassels, which give them a beautiful appearance. The sides of the head and cheeks

are bare, whitish, and edged with red, while underneath the throat hangs a kind of bag or wattle, like that of a cock, but not divided into two. To give this odd composition a higher finishing, the eye is large and staring; the pupil black and big, surrounded with a gold-coloured iris that completes the bird's very singular appearance.

From such a peculiar figure, we might be led to wish for a minute history of its manners; but of these we can give but slight information. This bird comes from the coast of Africa and the Cape de Verd Islands. As it runs, it stretches out its wings, and goes very swiftly, otherwise its usual motion is very slow. In their domestic state, they walk very deliberately among other poultry, and suffer themselves to be approached (at least it was so with that I saw) by every spectator. They never roost in houses; but about night, when they are disposed to go to rest, they search out some high wall, on which they perch in the manner of a peacock. Indeed, they so much resemble that bird in manners and disposition, that some have described them by the name of the sea-peacock; and Ray has been inclined to rank them in the same family. But, though their voice and roosting be similar, their food, which is entirely upon greens, vegetables, and barley, seems to make some difference*.

In this chapter of foreign birds of the crane

* [The Balearic Crane is most probably the crested Ibis, or Tantalus cristatus of modern authors. The head is furnished with a crest, the feathers of which are partly white, partly black; and on the throat is a large pouch destitute of feathers. It is a native of Madagascar and the coast of Africa.]

kind, it will be proper to mention the Jabiru and the Jabiru Guacu, both natives of Brasil. Of these great birds of the crane kind we know but little, except the general outline of their figure, and the enormous bills, which we often see preserved in the cabinets of the curious. The bill of the latter is red, and thirteen inches long; the bill of the former is black, and is found to be eleven. Neither of them, however, are of a size proportioned to their immoderate length of bill. The jabiru guacu is not above the size of a common stork, while the jabiru with the smallest bill exceeds the size of a swan. They are both covered with white feathers, except the head and neck, that are naked; and their principal difference is in the size of the body, and the make of the bill; the lower chap of the jabiru guacu being broad, and bending upwards*.

A bird still more extraordinary may be added to this class, called the Anhima, and, like the two

* [The American Jabiru is much larger than a turkey, and is found in all the savannas of Cayenne, Guiana, and other parts of South America. The bill is long, stout, and of a black colour: the head and about two-thirds of the neck, which are bare of feathers, are blackish; the remainder is also bare and of a fine red: on the hindhead are a few greyish feathers; the legs are strong, of great length, and covered with black scales. The general colour of the young birds is grey, in the second year it changes to a rose colour, and in the third to a pure white. It is a bird of great fierceness and voracity, hovering about the banks of rivers, and devouring fish in great quantities. The female builds her nest in great trees, lays two very large eggs, and brings up her young in the nest, till they can descend. The Indian Jabiru is still larger, and is distinguished by a black band which is over the eyes. It feeds on snails and shell-fish. Both these birds are migratory and gregarious.]

former, a native of Brasil. This is a water-fowl of the rapacious kind, and bigger than a swan. The head, which is small for the size of the body, bears a black bill, which is not above two inches long; but what distinguishes it in particular is a horn growing from the forehead as long as the bill, and bending forward like that of the fabulous unicorn of the ancients. This horn is not much thicker than a crow-quill, as round as if it were turned in a lathe, and of an ivory colour. But this is not the only instrument of battle this formidable bird carries; it seems to be armed at all points; for at the fore-part of each wing, at the second joint, spring two straight triangular spurs, about as thick as one's little finger: the foremost of these goads or spurs is above an inch long; the hinder is shorter, and both of a dusky colour. The claws also are long and sharp; the colour is black and white; and they cry terribly loud, sounding something like Vyhoo Vyhoo. They are never found alone, but always in pairs; the cock and hen prowl together; and their fidelity is said to be such, that when one dies, the other never departs from the carcase, but dies with its companion. It makes its nest of clay, near the bodies of trees, upon the ground, of the shape of an oven.

One bird more may be subjoined to this class, not for the oddity of its figure, but the peculiarity of its manners. It is vulgarly called by our sailors the Buffoon Bird, and by the French the Demoiselle, or Lady. The same qualities have procured it these different appellations from two nations who, on more occasions than this, look upon the same objects in very different lights. The peculiar ges-

tures and contortions of this bird, the proper name of which is the Numidian Crane, are extremely singular; and the French, who are skilled in the arts of elegant gesticulation, consider all its motions as lady-like and graceful. Our English sailors however, who have not entered so deeply into the dancing art, think, that while thus in motion the bird cuts but a very ridiculous figure. It stoops, rises, lifts one wing, then another, turns round, sails forward, then back again; all which highly diverts our seamen; not imagining, perhaps, that all these contortions are but the aukward expression not of the poor animal's pleasures but its fears.

It is a very scarce bird; the plumage is of a leaden grey; but it is distinguished by fine white feathers, consisting of long fibres, which fall from the back of the head, about four inches long; while the fore-part of the neck is adorned with black feathers, composed of very fine, soft, and long fibres, that hang down upon the stomach, and give the bird a very graceful appearance. The ancients have described a buffoon bird, but there are many reasons to believe that theirs is not the Numidian crane. It comes from that country from whence it has taken its name.

CHAP. V.

*Of the Heron, and its Varieties**.

BIRDS of the crane, the stork, and the heron kind, bear a very strong affinity to each other; and their differences are not easily discernible. As for the crane and the stork, they differ rather in their nature and internal conformation than in their external figure; but still they may be known asunder, as well by their colour as by the stork's claws, which are very peculiar, and more resembling a man's nails than the claws of a bird. The heron may be distinguished from both, as well by its size, which is much less, as by its bill, which in proportion is much longer; but particularly by the middle claw on each foot, which is toothed like a saw, for the better seizing and holding its slippery prey. Should other marks fail, however, there is an anatomical distinction, in which herons differ from all other birds, which is, that they have but one cæcum, and all other birds have two.

Of this tribe, Brisson has enumerated not less than forty-seven sorts, all differing in their size, figure, and plumage; and with talents adapted to their place of residence, or their peculiar pursuits. But, how various soever the heron kind may be in their colours or their bills, they all seem possessed of the same manners, and have but one character

* [Cranes are distinguished by having the head bald; Storks have the orbits round the eyes naked; and Herons have the middle claw serrated internally.]

of cowardice and rapacity, indolence, yet insatiable hunger. Other birds are found to grow fat by an abundant supply of food; but these, though excessively destructive and voracious, are ever found to have lean and carrion bodies, as if not even plenty were sufficient for their support.

The common heron is remarkably light, in proportion to its bulk, scarcely weighing three pounds and an half, yet it expands a breadth of wing which is five feet from tip to tip. Its bill is very long, being five inches from the point to the base; its claws are long, sharp, and the middlemost toothed like a saw. Yet, thus armed as it appears for war, it is indolent and cowardly, and even flies at the approach of a sparrow-hawk. It was once the amusement of the great to pursue this timorous creature with the falcon; and heron-hawking was so favourite a diversion among our ancestors, that laws were enacted for the preservation of the species; and the person who destroyed their eggs was liable to a penalty of twenty shillings for each offence.

At present, however, the defects of the ill-judged policy of our ancestors is felt by their posterity; for, as the amusement of hawking has given place to the more useful method of stocking fish-ponds, the heron is now become a most formidable enemy. Of all other birds, this commits the greatest devastation in fresh-waters; and there is scarcely a fish, though never so large, that he will not strike at and wound, though unable to carry it away. But the smaller fry are his chief subsistence; these, pursued by their larger fellows of the deep, are obliged to take refuge in shallow waters, where

they find the heron a still more formidable enemy. His method is to wade as far at he can go into the water, and there patiently wait the approach of his prey, which when it comes within sight, he darts upon with inevitable aim. In this manner he is found to destroy more in a week than an otter in three months. " I have seen an heron," says Willughby, " that had been shot, that had " seventeen carps in his belly at once, which he " will digest in six or seven hours, and then to " fishing again. I have seen a carp," continues he, " taken out of a heron's belly, nine inches and " an half long. Several gentlemen who kept tame " herons, to try what quantity one of them would " eat in a day, have put several smaller roach and " dace in a tub; and they have found him eat " fifty in a day, one day with another. In this " manner a single heron will destroy fifteen thou- " sand carp in a single half year."

So great are the digestive powers of this fresh-water tyrant, and so detrimental to those who stock ponds with fish. In general, he is seen taking his gloomy stand by the lake side, as if meditating mischief, motionless and gorged with plunder. His usual attitude on this occasion is to sink his long neck between his shoulders, and keep his head turned on one side, as if eying the pool more intently. When the call of hunger returns, the toil of an hour or two is generally sufficient to fill his capacious stomach; and he retires long before night to his retreat in the woods. Early in the morning, however, he is seen assiduous at his usual occupation.

But, though in seasons of fine weather the heron

can always find a plentiful supply; in cold or stormy seasons, his prey is no longer within reach: the fish that before came into the shallow water now keep in the deep, as they find it to be the warmest situation. Frogs and lizards also seldom venture from their lurking places; and the heron is obliged to support himself upon his long habits of patience, and even to take up with the weeds that grow upon the water. At those times he contracts a consumptive disposition, which succeeding plenty is not able to remove; so that the meagre glutton spends his time between want and riot, and feels alternately the extremes of famine and excess. Hence, notwithstanding the care with which he takes his prey, and the amazing quantity he devours, the heron is always lean and emaciated; and though his crop be usually found full, yet his flesh is scarcely sufficient to cover the bones.

The heron usually takes his prey by wading into the water; yet it must not be supposed that he does not also take it upon the wing. In fact, much of his fishing is performed in this manner; but he never hovers over deep waters, as there his prey is enabled to escape him by sinking to the bottom. In shallow places he darts with more certainty; for though the fish at sight of its enemy instantly descends, yet the heron, with his long bill and legs, instantly pins it to the bottom, and thus seizes it securely. In this manner, after having been seen with its long neck for above a minute under water, he rises upon the wing, with a trout or an eel struggling in his bill to get free. The greedy bird, however, flies to the shore, scarcely gives it time

to expire, but swallows it whole, and then returns to fishing as before.

As this bird does incredible mischief to ponds newly stocked, Willughby has given a receipt for taking him. "Having found his haunt, get three "or four small roach or dace, and having provided "a strong hook with a wire to it, this is drawn "just within side the skin of the fish, beginning "without side the gills, and running it to the "tail, by which the fish will not be killed, but "continue for five or six days alive. Then having "a strong line made of silk and wire, about two "yards and an half long, it is tied to a stone at one "end, the fish with the hook being suffered to "swim about at the other. This being properly "disposed in shallow water, the heron will seize "upon the fish to its own destruction. From "this method we may learn that the fish must "be alive, otherwise the heron will not touch "them; and that this bird, as well as all those "that feed upon fish, must be its own caterer; "for they will not prey upon such as die naturally, "or are killed by others before them."

Though this bird lives chiefly among pools and marshes, yet its nest is built on the tops of the highest trees, and sometimes on cliffs hanging over the sea. They are never in flocks when they fish, committing their depredations in solitude and silence; but in making their nests they love each other's society; and they are seen, like rooks, building in company with flocks of their kind. Their nests are made of sticks, and lined with wool; and the female lays four large eggs of a pale green colour. The observable indolence of their nature,

however, is not less seen in their nestling than in their habits of depredation. Nothing is more certain, and I have seen it an hundred times, than that they will not be at the trouble of building a nest when they can get one made by the rook, or deserted by the owl, already provided for them. This they usually enlarge and line within, driving off the original possessors, should they happen to renew their fruitless claims.

The French seem to have availed themselves of the indolence of this bird in making its nest; and they actually provide a place with materials fitted for their nestling, which they call Heronries. The heron, which with us is totally unfit for the table, is more sought for in France, where the flesh of the young ones is in particular estimation. To obtain this, the natives raise up high sheds along some fishy stream; and furnishing them with materials for the herons to nestle with, these birds build and breed there in great abundance. As soon as the young ones are supposed to be fit, the owner of the heronry comes, as we do into a pigeon-house, and carries off such as are proper for eating; and these are sold for a very good price to the neighbouring gentry. "These are a delicacy which," as my author says, "the French are very "fond of, but which strangers have not yet been "taught to relish as they ought." Nevertheless it was formerly much esteemed as a food in England, and made a favourite dish at great tables. It was then said that the flesh of a heron was a dish for a king; at present, nothing about the house will touch it but a cat.

With us, therefore, as the heron, both old and

young, is thought detestable eating, we seldom trouble these animals in their heights, which are for the most part sufficiently inaccessible. Their nests are often found in great numbers in the middle of large forests, and in some groves nearer home, where the owners have a predilection for the bird, and do not chuse to drive it from its accustomed habitations. It is certain that by their cries, their expansive wings, their bulk, and wavy motion, they add no small solemnity to the forest, and give a pleasing variety to a finished improvement.

When the young are excluded, as they are numerous, voracious, and importunate, the old ones are for ever upon the wing to provide them with abundance. The quantity of fish they take upon this occasion is amazing, and their size is not less to be wondered at. I remember a heron's nest that was built near a school-house; the boys, with their usual appetite for mischief, climbed up, took down the young ones, sewed up the vent, and laid them in the nest as before. The pain the poor little animals felt from the operation increased their cries; and this but served to increase the diligence of the old ones, in enlarging their supply. Thus they heaped the nest with various sorts of fish and the best of their kind; and as their young screamed they flew off for more. The boys gathered up the fish, which the young ones were incapable of eating, till the old ones at last quitted their nest, and gave up their brood, whose appetites they found it impossible to satisfy.

The heron is said to be a very long-lived bird; by Mr. Keysler's account it may exceed sixty years;

and by a recent instance of one that was taken in Holland, by an hawk belonging to the stadtholder, its longevity is again confirmed, the bird having a silver plate fastened to one leg, with an inscription, importing that it had been struck by the elector of Cologne's hawks thirty-five years before.

CHAP. VI.

Of the Bittern or Mire-drum.

THOSE who have walked in an evening by the sedgy sides of unfrequented rivers, must remember a variety of notes from different water fowl: the loud scream of the wild goose, the croaking of the mallard, the whining of the lapwing, and the tremulous neighing of the jack snipe. But of all those sounds, there is none so dismally hollow as the booming of the Bittern. It is impossible for words to give those who have not heard this evening-call an adequate idea of its solemnity. It is like the interrupted bellowing of a bull, but hollower and louder, and is heard at a mile's distance, as if issuing from some formidable being that resided at the bottom of the waters.

The bird, however, that produces this terrifying sound is not so big as an heron, with a weaker bill not above four inches long. It differs from the heron chiefly in its colour, which is in general of a paleish yellow, spotted and barred with black. Its wind-pipe is fitted to produce the sound for

which it is remarkable; the lower part of it dividing into the lungs is supplied with a thin loose membrane, that can be filled with a large body of air, and exploded at pleasure. These bellowing explosions are chiefly heard from the beginning of spring to the end of autumn; and, however awful they may seem to us, are the calls to courtship, or of connubial felicity.

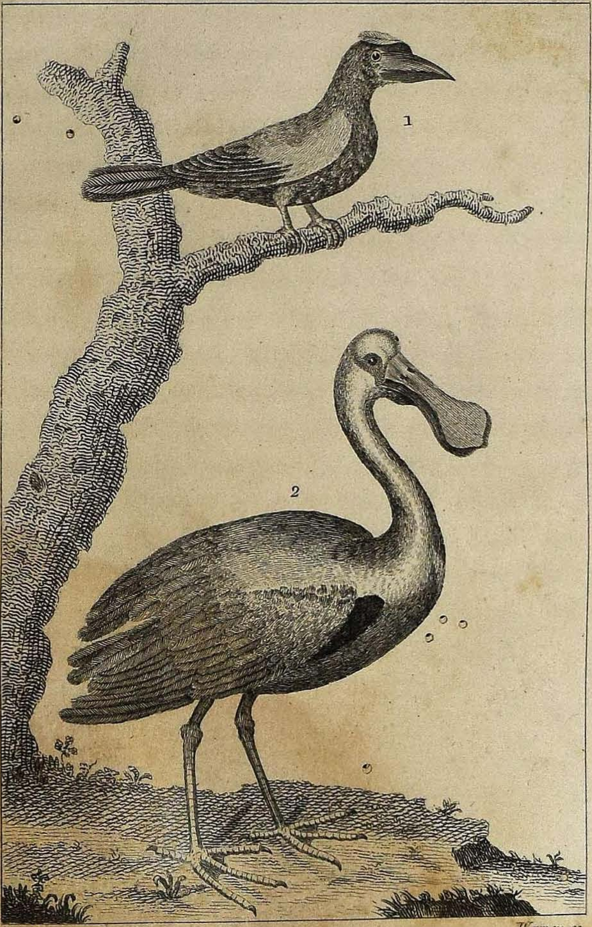
From the loudness and solemnity of the note, many have been led to suppose, that the bird made use of external instruments to produce it, and that so small a body could never eject such a quantity of tone. The common people are of opinion, that it thrusts its bill into a reed that serves as a pipe for swelling the note above its natural pitch; while others, and in this number we find Thomson the poet, imagine that the bittern puts its head under water, and then violently blowing produces its boomings. The fact is, that the bird is sufficiently provided by nature for this call; and it is often heard where there are neither reeds nor waters to assist its sonorous invitations.

It hides in the sedges by day, and begins its call in the evening, booming six or eight times, and then discontinuing for ten or twenty minutes to renew the same sound. This is a call it never gives but when undisturbed and at liberty. When its retreats among the sedges are invaded, when it dreads or expects the approach of an enemy, it is then perfectly silent. This call it has never been heard to utter when taken or brought up in domestic captivity; it continues under the controul of man a mute forlorn bird, equally incapable of attachment or instruction. But, though its boomings

are always performed in solitude, it has a scream which is generally heard upon the seizing its prey, and which is sometimes extorted by fear.

This bird, though of the heron kind, is yet neither so destructive nor so voracious. It is a retired, timorous animal, concealing itself in the midst of reeds and marshy places, and living upon frogs, insects, and vegetables; and though so nearly resembling the heron in figure, yet differing much in manners and appetites. As the heron builds on the tops of the highest trees, the bittern lays its nest in a sedgy margin, or amidst a tuft of rushes. The heron builds with sticks and wool; the bittern composes its simpler habitation of sedges, the leaves of water-plants, and dry rushes. The heron lays four eggs; the bittern generally seven or eight, of an ash-green colour. The heron feeds its young for many days; the bittern in three days leads its little ones to their food. In short, the heron is lean and cadaverous, subsisting chiefly upon animal food; the bittern is plump and fleshy, as it feeds upon vegetables when more nourishing food is wanting.

It cannot be, therefore, from its voracious appetites, but its hollow boom, that the bittern is held in such detestation by the vulgar. I remember in the place, where I was a boy, with what terror this bird's note affected the whole village; they considered it as the presage of some sad event; and generally found or made one to succeed it. I do not speak ludicrously; but if any person in the neighbourhood died, they supposed it could not be otherwise, for the night-raven had foretold it; but if nobody happened to die, the death of



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1. Species of the Calao.
2. The Spoon bill.

even the toes should entirely differ, yet the outlines of the figure, and the natural habits and dispositions being the same, these are sufficient to mark their place in the general groupe of nature.

The Spoonbill is one of those birds which differs a good deal from the crane, yet approaches this class more than any other. The body is more bulky for its height, and the bill is very differently formed from that of any other bird whatever. Yet still it is a comparatively tall bird; it feeds among waters; its toes are divided; and it seems to possess the natural dispositions of the crane. The European spoonbill is of about the bulk of a crane; but as the one is above four feet high, the other is not more than three feet three inches. The common colour of those of Europe is a dirty white; but those of America are of a beautiful rose-colour, or a delightful crimson. Beauty of plumage seems to be the prerogative of all the birds of that continent; and we here see the most splendid tints bestowed on a bird, whose figure is sufficient to destroy the effects of its colouring; for its bill is so oddly fashioned, and its eyes so stupidly staring, that its fine feathers only tend to add splendour to deformity. The bill, which in this bird is so very particular, is about seven inches long, and running out broad at the end, as its name justly serves to denote; it is there about an inch and a half wide. This strangely-fashioned instrument, in some is black; in others of a light grey; and in those of America it is of a red colour, like the rest of the body. All round the upper chap there runs a kind of rim, with which it covers that beneath; and as for the rest, its cheeks, and its throat,

are without feathers, and covered with a black skin.

A bird so oddly fashioned, might be expected to possess some very peculiar appetites; but the spoonbill seems to lead a life entirely resembling all those of the crane kind; and nature, when she made the bill of this bird so very broad, seems rather to have sported with its form, than to aim at any final cause for which to adapt it. In fact, it is but a poor philosophy to ascribe every capricious variety in nature to some salutary purpose: in such solutions we only impose upon each other; and often wilfully contradict our own belief. There must be imperfections in every being, as well as capacities of enjoyment. Between both, the animal leads a life of moderate felicity; in part making use of its many natural advantages, and in part necessarily conforming to the imperfections of its figure.

The shoveler chiefly feeds upon frogs, toads, and serpents; of which, particularly at the Cape of Good Hope, they destroy great numbers. The inhabitants of that country hold them in as much esteem as the ancient Egyptians did their bird ibis: the shoveler runs tamely about their houses; and they are content with its society, as an useful though an homely companion. They are never killed; and indeed they are good for nothing when they are dead, for the flesh is unfit to be eaten.

This bird breeds in Europe, in company with the heron, in high trees; and in a nest formed of the same materials. Willughby tells us, that in a certain grove, at a village called Seven Huys, near Leyden, they build and breed yearly in great numbers. In this grove, also, the heron, the bittern,

the cormorant, and the shag, have taken up their residence, and annually bring forth their young together. Here the crane kind seem to have formed their general rendezvous; and, as the inhabitants say, every sort of bird has its several quarter, where none but their own tribe are permitted to reside. Of this grove the peasants of the country make good profit. When the young ones are ripe, those that farm the grove, with a hook at the end of a long pole, catch hold of the bough on which the nest is built, and shake out the young ones; but sometimes the nest and all tumble down together.

The shoveler lays from three to five eggs, white, and powdered with a few sanguine or pale spots. We sometimes see, in the cabinets of the curious, the bills of American shovelers, twice as big and as long as those of the common kind among us; but these birds have not yet made their way into Europe.

CHAP. VIII.

The Flamingo.

THE Flamingo has the justest right to be placed among cranes; and though it happens to be web-footed, like birds of the goose kind, yet its height, figure, and appetites, entirely remove it from that groveling class of animals. With a longer neck and legs than any other of the crane kind, it seeks its food by wading among waters; and only differs

from all of this tribe in the manner of seizing its prey; for as the heron makes use of its claws, the flamingo uses only its bill, which is strong and thick for the purpose, the claws being useless, as they are feeble, and webbed like those of water-fowl.

The flamingo is the most remarkable of all the crane kind, the tallest, bulkiest, and the most beautiful. The body, which is of a beautiful scarlet, is no bigger than that of a swan; but its legs and neck are of such an extraordinary length, that when it stands erect, it is six feet six inches high. Its wings, extended, are five feet six inches from tip to tip; and it is four feet eight inches from tip to tail. The head is round and small, with a large bill, seven inches long, partly red, partly black, and crooked like a bow. The legs and thighs, which are not much thicker than a man's finger, are about two feet eight inches high; and its neck near three feet long. The feet are not furnished with sharp claws, as in others of the crane kind; but feeble, and united by membranes, as in those of the goose. Of what use these membranes are, does not appear, as the bird is never seen swimming, its legs and thighs being sufficient for bearing it into those depths where it seeks for prey.

This extraordinary bird is now chiefly found in America, but was once known on all the coasts of Europe. Its beauty, its size, and the peculiar delicacy of its flesh, have been such temptations to destroy or take it, that it has long since deserted the shores frequented by man, and taken refuge in countries that are as yet but thinly peopled. In those desert regions, the flamingos live in a state of so-

ciety, and under a better polity than any other of the feathered creation.

When the Europeans first came to America, and coasted down along the African shores, they found the flamingos on several shores on either continent, gentle, and no way distrustful of mankind*. They had long been used to security in the extensive solitudes they had chosen; and knew no enemies, but those they could very well evade or oppose. The Negroes and the native Americans were possessed but of few destructive arts for killing them at a distance; and when the bird perceived the arrow, it well knew how to avoid it. But it was otherwise when the Europeans first came among them: the sailors, not considering that the dread of fire-arms was totally unknown in that part of the world, gave the flamingo the character of a foolish bird, that suffered itself to be approached and shot at. When the fowler had killed one, the rest of the flock, far from attempting to fly, only regarded the fall of their companion in a kind of fixed astonishment: another and another shot was discharged; and thus the fowler often levelled the whole flock, before one of them began to think of escaping.

But at present it is very different in that part of the world; and the flamingo is not only one of the scarcest, but of the shyest birds in the world, and the most difficult of approach. They chiefly keep near the most deserted and inhospitable shores; near salt-water lakes and swampy islands. They come down to the banks of rivers by day; and often retire to the inland, mountainous parts of the coun-

* Albin's New History of Birds.

try at the approach of night. When seen by mariners in the day, they always appear drawn up in a long close line of two or three hundred together; and, as Dampier tells us, present, at the distance of half a mile, the exact representation of a long brick wall. Their rank, however, is broken when they seek for food; but they always appoint one of the number as a watch, whose only employment is to observe and give notice of danger, while the rest are feeding. As soon as this trusty centinel perceives the remotest appearance of danger, he gives a loud scream, with a voice as shrill as a trumpet, and instantly the whole cohort are upon the wing. They feed in silence; but, upon this occasion, all the flock are in one chorus, and fill the air with intolerable screamings.

From this it appears that the flamingos are very difficult to be approached at present, and that they avoid mankind with the most cautious timidity; however, it is not from any antipathy to man that they shun his society, for in some villages, as we are assured by Labat, along the coast of Africa the flamingos come in great numbers to make their residence among the natives. There they assemble by thousands, perched on the trees, within and about the village; and are so very clamorous, that the sound is heard at near a mile distance. The Negroes are fond of their company; and consider their society as a gift of heaven, as a protection from accidental evils. The French, who are admitted to this part of the coast, cannot, without some degree of discontent, see such a quantity of game untouched, and rendered useless by the superstition of the natives: they now and then privately shoot some of

them, when at a convenient distance from the village, and hide them in the long grass, if they perceive any of the Negroes approaching; for they would probably stand a chance of being ill treated, if the blacks discovered their sacred bird, were thus unmercifully treated.

Sometimes, in their wild state, they are shot by mariners; and their young, which run excessively fast, are often taken. Labat has frequently taken them with nets properly extended round the places they breed in. When their long legs are entangled in the meshes, they are then unqualified to make their escape: but they still continue to combat with their destroyer, and the old ones, though seized by the head, will scratch with their claws; and these, though seemingly inoffensive, very often do mischief. When they are fairly disengaged from the net, they nevertheless preserve their natural ferocity; they refuse all nourishment; they peck and combat with their claws at every opportunity. The fowler is therefore under a necessity of destroying them, when taken; as they would only pine and die, if left to themselves in captivity. The flesh of the old ones is black and hard; though, Dampier says, well tasted: that of the young ones is still better. But, of all other delicacies, the flamingo's tongue is the most celebrated. A dish of flamingos' tongues, says our author, is a feast for an emperor. In fact, the Roman emperors considered them as the highest luxury; and we have an account of one of them, who procured fifteen hundred flamingos' tongues to be served up in a single dish. The tongue of this bird, which is so much sought after, is a good deal larger than that of any other bird whatever. The bill of

the flamingo is like a large black box, of an irregular figure, and filled with a tongue which is black and gristly; but what peculiar flavour it may possess, I leave to be determined by such as understand good eating better than I do. It is probable, that the beauty and scarcity of the bird, might be the first inducements to studious gluttony to fix upon its tongue as meat for the table. What Dampier says of the goodness of its flesh, cannot so well be relied on; for Dampier was often hungry, and thought any thing good that could be eaten: he avers, indeed, with Labat, that the flesh is black, tough, and fishy; so that we can hardly give him credit, when he asserts, that its flesh can be formed into a luxurious entertainment.

These birds, as was said, always go in flocks together; and they move in rank, in the manner of cranes. They are sometimes seen, at the break of day, flying down in great numbers from the mountains; and conducting each other with a trumpet cry, that sounds like the word Tococo, from whence the savages of Canada have given them the name. In their flight they appear to great advantage: for they then seem of as bright a red as a burning coal. When they dispose themselves to feed, their cry ceases, and then they disperse over a whole marsh, in silence and assiduity. Their manner of feeding is very singular: the bird thrusts down its head, so that the upper convex side of the bill shall only touch the ground; and in this position the animal appears, as it were, standing upon its head. In this manner it paddles and moves the bill about, and seizes whatever fish or insect happens to offer. For this purpose the upper chap is notched at the edges, so

as to hold its prey with the greater security. Catesby, however, gives a different account of their feeding. According to him, they thus place the upper chap undermost, and so work about, in order to pick up a seed from the bottom of the water, that resembles millet: but as in picking up this they necessarily also suck in a great quantity of mud, their bill is toothed at the edges, in such a manner as to let out the mud while they swallow the grain.

Their time of breeding is according to the climate in which they reside: in North America they breed in our summer; on the other side the line they take the most favourable season of the year. They build their nests in extensive marshes, and where they are in no danger of a surprize. The nest is not less curious than the animal that builds it: it is raised from the surface of the pool about a foot and a half, formed of mud, scraped up together, and hardened by the sun, or the heat of the bird's body: it resembles a truncated cone, or one of the pots which we see placed on chimnies: on the top it is hollowed out to the shape of the bird, and in that cavity the female lays her eggs, without any lining but the well-cemented mud that forms the sides of the building. She always lays two eggs, and no more; and, as her legs are immoderately long, she straddles on the nest, while her legs hang down, one on each side, into the water.

The young ones are a long while before they are able to fly; but they run with amazing swiftness. They are sometimes caught; and, very different from the old ones, suffer themselves to be carried home, and are tamed very easily. In five or six days

they become familiar, eat out of the hand, and drink a surprising quantity of sea-water. But though they are easily rendered domestic, they are not reared without the greatest difficulty; for they generally pine away for want of their natural supplies, and die in a short time. While they are yet young, their colours are very different from those lively tints they acquire with age. In their first year they are covered with plumage of a white colour, mixed with grey; in the second year the whole body is white, with here and there a slight tint of scarlet; and the great covert feathers of the wings are black: the third year the bird acquires all its beauty; the plumage of the whole body is scarlet, except some of the feathers in the wings, that still retain their sable hue. Of these beautiful plumes, the savages make various ornaments; and the bird is sometimes skinned by the Europeans, to make muffs. But these have diminished in their price, since we have obtained the art of dying feathers of the brightest scarlet.

CHAP. IX.

Of the Avosetta or Scooper, and the Corrira or Runner.

THE extraordinary shape of the Avosetta's bill might incline us to wish for its history; and yet in that we are not able to indulge the reader. Natural historians have hitherto, like ambitious monarchs, shewn a greater fondness for extending their

dominions than cultivating what they possess. While they have been labouring to add new varieties to their catalogues, they have neglected to study the history of animals already known.

The Avosetta is chiefly found in Italy, and now and then comes over into England. It is about the size of a pigeon, is a pretty upright bird, and has extremely long legs for its size. But the most extraordinary part of its figure, and that by which it may be distinguished from all others of the feathered tribe, is the bill, which turns up like a hook, in an opposite direction to that of the hawk or the parrot. This extraordinary bill is black, flat, sharp, and flexible at the end, and about three inches and an half long. From its being bare a long way above the knee, it appears that it lives and wades in the waters. It has a chirping, pert note, as we are told; but with its other habits we are entirely unacquainted. I have placed it, from its slender figure, among the cranes; although it is web-footed, like the duck. It is one of those birds of whose history we are yet in expectation*.

* [The Avocet breeds in the fens of Lincolnshire, and on Romney marsh in Kent. In winter they assemble in small flocks of six or seven, and frequent our shores, especially the mouths of large muddy rivers, in search of worms and marine insects. These they scoop out of the mud with their recurved bills, which is admirably adapted for that purpose, being tough and flexible like whalebone. The feet seem calculated for swimming, but they are never observed to take the water: it is therefore probable, that they are furnished with a web, merely to prevent their sinking into the mud. The female lays two eggs about the size of those of a pigeon, of a white colour tinged with green, and marked with large black spots. It is said to be very tenacious of its young, and when disturbed at this season, will fly round in repeated circles, uttering a note that resembles the word twit, twice repeated.]

To this bird of the crane kind, so little known, I will add another, still less known; the Corrira or Runner of Aldrovandus. All we are told of it is, that it has the longest legs of all web-footed fowls, except the flamingo and avosetta; that the bill is straight, yellow and black at the ends; that the pupils of the eyes are surrounded with two circles, one of which is bay, and the other white: below, near the belly, it is whitish; the tail, with two white feathers, black at the extremities; and that the upper part of the body is of the colour of rusty iron. It is thus that we are obliged to substitute dry description for instructive history, and employ words, to express those shadings of colour which the pencil alone can convey.

CHAP. X.

Of Small Birds of the Crane Kind, with the Thighs partly bare of Feathers.

As I have taken my distinctions rather from the general form and manners of birds, than from their minuter, though perhaps more precise discriminations, it will not be expected that I should here enter into a particular history of a numerous tribe of birds, whose manners and forms are so very much alike. Of many of them we have scarcely any account in our historians, but tedious descriptions of their dimensions, and the colour of their plumage; and of the rest, the history of one is so much that of all, that it is but the same account repeated to a

most disgusting reiteration. I will therefore groupe them into one general draught; in which the more eminent, or the most whimsical, will naturally stand forward on the canvas.

In this groupe we find an extensive race of native birds, with their varieties and affinities, and we might add an hundred others, of distant climates, of which we know little more than the colour and the name. In this list is exhibited the Curlew, a bird of about the size of a duck, with a bill four inches long: the Woodcock, about the size of a pigeon, with a bill three inches long: the Godwit, of the same size; the bill four inches: the Green Shank, longer legged; the bill two inches and an half: the Red Shank, differing in the colour of its feet from the former: the Snipe, less by half, with a bill three inches. Then with shorter bills—The Ruff, with a collar of feathers round the neck of the male; the Knot, the Sandpiper, the Sanderling, the Dunlin, the Purre, and the Stint. To conclude; with bills very short—The Lapwing, the Green Plover, the Grey Plover, the Dottrel, the Turnstone, and the Sea-lark. These, with their affinities, are properly natives or visitants of this country: and are dispersed along our shores, rivers, and watery grounds. Taking in the birds of this kind, belonging to other countries, the list would be very widely extended; and the whole of this class, as described by Brisson, would amount to near an hundred.

All these birds possess many marks in common; though some have peculiarities that deserve regard. All these birds are bare of feathers above the knee, or above the heel, as some naturalists chuse to express it. In fact, that part which I call the knee, if

compared with the legs of mankind, is analogous to the heel; but, as it is commonly conceived otherwise, I have conformed to the general apprehension. I say, therefore, that all these birds are bare of feathers above the knee; and in some they are wanting half way up the thigh. The nudity in that part is partly natural, and partly produced by all birds of this kind habitually wading in water. The older the bird the barer are its thighs; yet even the young ones have not the same downy covering reaching so low as the birds of any other class. Such a covering there would rather be prejudicial, as being continually liable to get wet in the water.

As these birds are usually employed rather in running than in flying, and as their food lies entirely upon the ground, and not on trees, or in the air, so they run with great swiftness for their size, and the length of their legs assists their velocity. But as, in seeking their food, they are often obliged to change their station; so also are they equally swift of wing, and traverse immense tracts of country without much fatigue.

It has been thought by some, that a part of this class lived upon an oily slime, found in the bottoms of ditches and of weedy pools; they were thence termed, by Willughby, Mudsuckers. But later discoveries have shewn that, in these places, they hunt for the caterpillars and worms of insects. From hence, therefore, we may generally assert, that all birds of this class live upon animals of one kind or another. The long-billed birds suck up worms and insects from the bottom; those furnished with shorter bills, pick up such insects, as lie nearer the

surface of the meadow, or among the sands on the sea-shore.

Thus the curlew, the woodcock, and the snipe, are ever seen in plashy brakes, and under covered hedges, assiduously employed in seeking out insects in their worm state; and it seems, from their fatness, that they find a plentiful supply. Nature, indeed, has furnished them with very convenient instruments for procuring their food. Their bills are made sufficiently long for searching; but still more, they are endowed with an exquisite sensibility at the point, for feeling their provision. They are furnished with no less than three pair of nerves, equal almost to the optic nerves in thickness; which pass from the roof of the mouth, and run along the upper chap to the point.

Nor are those birds with shorter bills, and destitute of such convenient instruments, without a proper provision made for their subsistence. The lapwing, the sand-piper, and the red-shank, run with surprizing rapidity along the surface of the marsh, or the sea-shore, quarter their ground with great dexterity, and leave nothing of the insect kind that happens to lie on the surface. These, however, are neither so fat nor so delicate as the former; as they are obliged to toil more for a subsistence, they are easily satisfied with whatever offers; and their flesh often contracts a relish from what has been their latest, or their principal, food.

Most of the birds formerly described have stated seasons for feeding and rest: the eagle kind prowl by day, and at evening repose; the owl by night, and keeps unseen in the day-time. But these birds,

of the crane kind, seem at all hours employed: they are seldom at rest by day; and, during the whole night season, every meadow and marsh resounds with their different calls, to courtship or to food. This seems to be the time when they least fear interruption from man; and though they fly at all times, yet, at this season, they appear more assiduously employed, both in providing for their present support, and continuing that of posterity. This is usually the season when the insiduous fowler steals in upon their occupations, and fills the whole meadow with terror and destruction.

As all of this kind live entirely in waters, and among watery places, they seem provided by Nature with a warmth of constitution to fit them for that cold element. They reside, by choice, in the coldest climates; and as other birds migrate here in our summer, their migrations hither are mostly in the winter. Even those that reside among us the whole season, retire in summer to the tops of our bleakest mountains; where they breed and bring down their young, when the cold weather sets in.

Most of them, however, migrate, and retire to the polar regions; as those that remain behind in the mountains, and keep with us during summer, bear no proportion to the quantity which in winter haunt our marshes and low grounds. The snipe sometimes builds here; and the nest of the curlew is sometimes found in the plashes of our hills: but the number of these is very small; and it is most probable that they are only some stragglers, who, not having strength or courage sufficient for the general voyage, take up from necessity their habitation here.

In general, during summer, this whole class either chuse the coldest countries to retire to, or the coldest and the moistest part of ours to breed in. The curlew, the woodcock, the snipe, the godwit, the grey plover, the green, and the long-legged plover, the knot and the turnstone, are rather the guests than the natives of this island. They visit us in the beginning of winter, and forsake us in the spring. They then retire to the mountains of Sweden, Poland, Prussia, and Lapland, to breed. Our country, during the summer season, becomes uninhabitable to them. The ground parched up by the heat; the springs dried away; and the vermicular insects already upon the wing; they have no means of subsisting. Their weak and delicately pointed bills are unfit to dig into a resisting soil; and their prey is departed, though they were able to reach its retreats. Thus, that season, when Nature is said to teem with life, and to put on her gayest liveries, is to them an interval of sterility and famine. The coldest mountains of the north are then a preferable habitation; the marshes there are never totally dried up; and the insects are in such abundance, that, both above ground and underneath, the country swarms with them. In such retreats, therefore, these birds would continue always; but that the frosts, when they set in, have the same effect upon the face of the landscape, as the heats of summer. Every brook is stiffened into ice; all the earth is congealed into one solid mass; and the birds are obliged to forsake a region where they can no longer find subsistence.

Such are our visitants. With regard to those

which keep with us continually, and breed here, they are neither so delicate in their food, nor perhaps so warm in their constitutions. The lapwing, the ruff, the red-shank, the sand-piper, the sea-pie, the Norfolk plover, and the sea-lark, breed in this country, and, for the most part, reside here. In summer they frequent such marshes as are not dried up in any part of the year; the Essex hundreds, and the fens of Lincolnshire. There, in solitudes formed by surrounding marshes, they breed and bring up their young. In winter they come down from their retreats, rendered uninhabitable by the flooding of the waters, and seek their food about our ditches and marshy meadow-grounds. Yet even of this class, all are wanderers upon some occasions; and take wing to the northern climates, to breed and find subsistence. This happens when our summers are peculiarly dry; and when the fenny countries are not sufficiently watered to defend their retreats.

But though this be the usual course of nature, with respect to these birds, they often break through the general habits of their kind; and as the lapwing, the ruff, and the sand-piper, are sometimes seen to alter their manners, and to migrate from hence, instead of continuing to breed here; so we often find the woodcock, the snipe, and the curlew, reside with us during the whole season, and breed their young in different parts of the country. In Casewood, about two miles from Tunbridge, as Mr. Pennant assures us, some woodcocks are seen to breed annually. The young have been shot there in the beginning of August; and were as healthy and vigorous as they are with us in

winter, though not so well tasted. On the Alps, and other high mountains, says Willughby, the woodcock continues all summer. I myself have flushed them on the top of Mount Jura, in June and July. The eggs are long, of a pale red colour, and stained with deeper spots and clouds. The nests of the curlew and the snipe are frequently found; and some of these perhaps never entirely leave this island.

It is thus that the same habits are, in some measure, common to all, but in nestling, and bringing up their young, one method takes place universally. As they all run and feed upon the ground, so they are all found to nestle there. The number of eggs generally to be seen in every nest, is from two to four; never under, and very seldom exceeding. The nest is made without any art; but the eggs are either laid in some little depression of the earth, or on a few bents and long grass, that scarcely preserve them from the moisture below. Yet such is the heat of the body of these birds, that their time of incubation is shorter than with any others of the same size. The magpie, for instance, takes twenty-one days to hatch its young; the lapwing takes but fourteen. Whether the animal oil, with which these birds abound, gives them this superior warmth, I cannot tell: but there is no doubt of their quick incubation.

In their seasons of courtship, they pair as other birds; but not without violent contests between the males, for the choice of the female. The lapwing and the plover are often seen to fight among themselves; but there is one little bird of this tribe, called the ruff, that has got the epithet of the

fighter, merely from its great perseverance and animosity on these occasions. In the beginning of spring, when these birds arrive among our marshes, they are observed to engage with desperate fury against each other; it is then that the fowlers, seeing them intent on mutual destruction, spread their nets over them, and take them in great numbers. Yet even in captivity their animosity still continues: the people that fat them up for sale are obliged to shut them up in close dark rooms; for if they let ever so little light in among them, the turbulent prisoners instantly fall to fighting with each other, and never cease till each has killed its antagonist, especially, says Willughby, if any body stands by. A similar animosity, though in a less degree, prompts all this tribe; but when they have paired, and begun to lay, their contentions are then over.

The place these birds chiefly chuse to breed in, is in some island surrounded with sedgy moors, where men seldom resort; and in such situations I have often seen the ground so strewed with eggs and nests, that one could scarcely take a step without treading upon some of them. As soon as a stranger intrudes upon these retreats, the whole colony is up, and an hundred different screams are heard from every quarter. The arts of the lapwing to allure men or dogs from her nest, are perfectly amusing. When she perceives the enemy approaching, she never waits till they arrive at her nest, but boldly runs to meet them: when she has come as near them as she dares to venture, she then rises with a loud screaming before them, seeming as if she were just flushed from hatching; while

she is then probably an hundred yards from the nest. Thus she flies, with great clamour and anxiety, whining and screaming round the invaders, striking at them with her wings, and fluttering as if she were wounded. To add to the deceit, she appears still more clamorous, as more remote from the nest. If she sees them very near, she then seems to be quite unconcerned, and her cries cease, while her terrors are really augmenting. If there be dogs, she flies heavily at a little distance before them, as if maimed; still vociferous and still bold, but never offering to move towards the quarter where her treasure is deposited. The dog pursues, in hopes every moment of seizing the parent, and by this means actually loses the young; for the cunning bird, when she has thus drawn him off to a proper distance, then puts forth her powers, and leaves her astonished pursuer to gaze at the rapidity of her flight. The eggs of all these birds are highly valued by the luxurious; they are boiled hard, and thus served up, without any further preparation.

As the young of this class are soon hatched, so, when excluded, they quickly arrive at maturity. They run about after the mother as soon as they leave the egg; and being covered with a thick down, want very little of that clutching which all birds of the poultry kind, that follow the mother, indispensably require. They come to their adult state long before winter; and then flock together, till the breeding season returns, which for a while dissolves their society.

As the flesh of almost all these birds is in high estimation, so many methods have been contrived for taking them. That used in taking the ruff

seems to be the most advantageous; and it may not be amiss to describe it. The Ruff, which is the name of the male, the Reeve that of the female, is taken in nets about forty yards long, and seven or eight feet high. These birds are chiefly found in Lincolnshire and the Isle of Ely, where they come about the latter end of April, and disappear about Michaelmas. The male of this bird, which is known from all others of the kind by the great length of the feathers round his neck, is yet so various in his plumage, that it is said, no two ruffs were ever seen totally of the same colour. The nets in which these are taken, are supported by sticks, at an angle of near forty-five degrees, and placed either on dry ground, or in very shallow water, not remote from reeds; among these the fowler conceals himself, till the birds, enticed by a stale or stuffed bird, come under the nets: he then, by pulling a string, lets them fall, and they are taken; as are godwits, knots, and grey plover, also in the same manner. When these birds are brought from under the net, they are not killed immediately, but fattened for the table, with bread and milk, hemp-seed, and sometimes boiled wheat; but if expedition be wanted, sugar is added, which will make them a lump of fat in a fortnight's time. They are kept, as observed before, in a dark room; and judgment is required in taking the proper time for killing them, when they are at the highest pitch of fatness; for, if that is neglected, the birds are apt to fall away. They are reckoned a very great delicacy; they sell for two shillings, or half a crown a piece; and are served up to the table with the train, like woodcocks, where we will leave them.

CHAP. XI.

Of the Water-hen and the Coot.

BEFORE we enter upon water-fowls, properly so called, two or three birds claim our attention, which seem to form the shade between the web-footed tribe and those of the crane kind. These partake rather of the form than the habits of the crane; and, though furnished with long legs and necks, rather swim than wade. They cannot properly be called web-footed; nor yet are they entirely destitute of membranes, which fringe their toes on each side, and adapt them for swimming. The birds in question are, the Water-hen, and the Bald Coot.

These birds have too near an affinity, not to be ranked in the same description. They are shaped entirely alike, their legs are long, and their thighs partly bare; their necks are proportionable, their wings short, their bills short and weak, their colour black, their foreheads bald and without feathers, and their habits entirely the same. These, however, naturalists have thought proper to range in different classes, from very slight distinctions in their figure. The water-hen weighs but fifteen ounces; the coot twenty-four. The bald part of the forehead in the coot is black; in the water-hen it is of a beautiful pink colour. The toes of the water-hen are edged with a straight membrane; those of the coot have it scolloped and broader.

The differences in the figure are but slight; and those in their manner of living still less. The

history of the one will serve for both. As birds of the crane kind are furnished with long wings, and easily change place, the water-hen, whose wings are short, is obliged to reside entirely near those places where her food lies: she cannot take those long journeys that most of the crane kind are seen to perform; compelled by her natural imperfections, as well perhaps as by inclination, she never leaves the side of the pond or the river in which she seeks for provision. Where the stream is selvaged with sedges, or the pond edged with shrubby trees, the water hen is generally a resident there: she seeks her food along the grassy banks; and often along the surface of the water. With Shakespear's Edgar, she drinks the green mantle of the standing pool; or, at least, seems to prefer those places where it is seen. Whether she makes pond-weed her food, or hunts among it for water-insects, which are found there in great abundance, is not certain. I have seen them when pond-weed was taken out of their stomach. She builds her nest upon low trees and shrubs, of sticks and fibres, by the water side. Her eggs are sharp at one end, white, with a tincture of green spotted with red. She lays twice or thrice in a summer; her young ones swim the moment they leave the egg, pursue their parent, and imitate all her manners. She rears, in this manner, two or three broods in a season; and when the young are grown up, she drives them off to shift for themselves.

As the coot is a larger bird, it is always seen in larger streams, and more remote from mankind. The water-hen seems to prefer inhabited situations: she keeps near ponds, moats, and pools

of water near gentlemens' houses; but the coot keeps in rivers, and among rushy margined lakes. It there makes a nest of such weeds as the stream supplies, and lays them among the reeds, floating on the surface, and rising and falling with the water. The reeds among which it is built keep it fast; so that it is seldom washed into the middle of the stream. But if this happens, which is sometimes the case, the bird sits in her nest, like a mariner in his boat, and steers with her legs her cargo into the nearest harbour: there, having attained her port, she continues to sit in great tranquillity, regardless of the impetuosity of the current; and though the water penetrates her nest, she hatches her eggs in that wet condition.

The water-hen never wanders: but the coot sometimes swims down the current, till it even reaches the sea. In this voyage these birds encounter a thousand dangers: as they cannot fly far, they are hunted by dogs and men; as they never leave the stream, they are attacked and destroyed by otters; they are preyed upon by kites and falcons; and they are taken, in still greater numbers, in weirs made for catching fish; for these birds are led into the nets, while pursuing small fish and insects, which are their principal food. Thus animated nature affords a picture of universal invasion! Man destroys the otter, the otter destroys the coot, the coot feeds upon fish, and fish are universally the tyrants of each other!

To these birds, with long legs and finny toes, I will add one species more, with short legs and finny toes: I mean the grebe. The entire resemblance of this bird's appetites and manners to

those of the web-footed class, might justly induce me to rank it among them; but as it resembles those above described in the peculiar form of its toes, and bears some similitude in its manners also, I will for once sacrifice method to brevity. The grebe is much larger than either of the former, and its plumage white and black: it differs also entirely in the shortness of its legs, which are made for swimming, and not walking: in fact, they are from the knee upward hid in the belly of the bird, and have consequently very little motion. By this mark, and by the scolloped fringe of the toes, may this bird be easily distinguished from all others.

As they are thus, from the shortness of their wings, ill formed for flying, and from the uncommon shortness of their legs, utterly unfitted for walking, they seldom leave the water, and chiefly frequent those broad shallow pools where their faculty of swimming can be turned to the greatest advantage, in fishing and seeking their prey.

They are chiefly, in this country, seen to frequent the meres of Shropshire and Cheshire; where they breed among reeds and flags, in a floating nest, kept steady by the weeds of the margin. The female is said to be a careful nurse of its young, being observed to feed them most assiduously with small eels; and when the little brood is tired, the mother will carry them, either on her back or under her wings. This bird preys upon fish, and is almost perpetually diving. It does not shew much more than the head above water; and is very difficult to be shot, as it darts down on the appearance of the least danger. It is never seen on land; and, though

disturbed ever so often, will not leave that lake, where alone, by diving and swimming, it can find food and security. It is chiefly sought for the skin of its breast, the plumage of which is of a most beautiful silvery white, and as glossy as satin. This part is made into tippets; but the skins are out of season about February, losing their bright colour; and in breeding-time their breasts are entirely bare.

OF

WATER-FOWL.

PART VI.

CHAP. I.

Of Water-Fowl in General.

IN settling the distinctions among the other classes of birds, there was some difficulty; one tribe encroached so nearly upon the nature and habitudes of another, that it was not easy to draw the line which kept them asunder: but in water-fowl nature has marked them for us by a variety of indelible characters; so that it would be almost as unlikely to mistake a land-fowl for one adapted for living and swimming among the waters, as a fish for a bird.

The first great distinction in this class, appears in the toes, which are webbed together for swimming. Those who have remarked the feet or toes of a duck, will easily conceive how admirably they are formed for making way in the water. When men swim they do not open the fingers, so as to let the fluid pass through them; but closing them together present one broad surface to beat back the water, and thus push their bodies along. What man performs by art, nature has supplied to water-fowl; and, by broad skins, has webbed their toes together, so that they expand two broad oars to the water; and thus, moving them alternately, with the greatest ease paddle along. We must observe also, that the toes are so contrived, that as they strike backward, their broadest hollow surface beats the water; but as they gather them in again

for a second blow, their front surface contracts, and does not impede the bird's progressive motion.

As their toes are webbed in the most convenient manner, so are their legs also made most fitly for swift progression in the water. The legs of all are short, except the three birds described in a former chapter; namely, the flamingo, the avosetta, and the corrira: all which, for that reason, I have thought proper to rank among the crane kind, as they make little use of their toes in swimming. Except these, all web-footed birds have very short legs; and these strike, while they swim, with greater facility. Were the leg long, it would act like a lever whose prop is placed to a disadvantage; its motions would be slow, and the labour of moving it considerable. For this reason, the very few birds whose webbed feet are long, never make use of them in swimming: the web at the bottom seems only of service as a broad base, to prevent them from sinking while they walk in the mud; but it otherwise rather retards than advances their motion.

The shortness of the legs in the web-footed birds, renders them as unfit for walking on land, as it qualifies them for swimming in their natural element. Their stay, therefore, upon land is but short and transitory; and they seldom venture to breed far from the sides of those waters where they usually remain. In their breeding-seasons, their young are brought up by the water-side; and they are covered with a warm down, to fit them for the coldness of their situation. The old ones also have a closer, warmer plumage, than birds of any other class. It is of their feathers that our beds are composed;

as they neither mat nor imbibe humidity, but are furnished with an animal-oil, that glazes their surface, and keeps each separate. In some, however, this animal-oil is in too great abundance; and is as offensive from its smell as it is serviceable for the purposes of household œconomy. The feathers, therefore, of all the penguin kind, are totally useless for domestic purposes; as neither boiling nor bleaching can divest them of their oily rancidity. Indeed, the rancidity of all new feathers, of whatever water-fowl they be, is so disgusting, that our upholsterers give near double the price for old feathers that they afford for new: to be free from smell, they must all be lain upon for some time; and their usual method is to mix the new and the old together.

This quantity of oil, with which most water-fowl are supplied, contributes also to their warmth in the moist element where they reside. Their skin is generally lined with fat; so that, with the warmth of the feathers externally, and this natural lining more internally, they are better defended against the changes or the inclemencies of the weather, than any other class whatever.

As, among land-birds, there are some found fitted entirely for depredation, and others for an harmless method of subsisting upon vegetables, so also among these birds there are tribes of plunderers, that prey not only upon fish, but sometimes upon water-fowl themselves. There are likewise more inoffensive tribes, that live upon insects and vegetables only. Some water-fowls subsist by making sudden stoops from above, to seize whatever fish come near the surface; others again, not furnished

with wings long enough to fit them for flight, take their prey by diving after it to the bottom.

Hence all water-fowl naturally fall into three distinctions. Those of the gull kind, that, with long legs and round bills, fly along the surface to seize their prey. Those of the penguin kind, that, with round bills, legs hid in the abdomen, and short wings, dive after their prey: and thirdly, those of the goose kind, with flat broad bills, that lead harmless lives, and chiefly subsist upon insects and vegetables.

These are not speculative distinctions, made up for the arrangement of a system; but they are strongly and evidently marked by Nature. The gull kind are active and rapacious; constantly, except when they breed, keeping upon the wing, fitted for a life of rapine, with sharp straight bills for piercing, or hooked at the end for holding their fishy prey. In this class we may rank the Albatross, the Cormorant, the Gannet or Soland Goose, the Shag, the Frigate bird, the Great Brown Gull, and all the lesser tribe of gulls and sea-swallows.

The Penguin kind, with appetites as voracious, bills as sharp, and equally eager for prey, are yet unqualified to obtain it by flight. Their wings are short, and their bodies large and heavy, so that they can neither run nor fly. But they are formed for diving in a very peculiar manner. Their feet are placed so far backward, and their legs so hid in the abdomen, that the slightest stroke sends them head foremost to the bottom of the water. To this class we may refer the Penguin, the Auk, the Skout, the Sea-turtle, the Bottle-nose, and the Loon.

The Goose kind are easily distinguishable, by their flat broad bills, covered with a skin; and their manner of feeding, which is mostly upon vegetables. In this class we may place the Swan, the Goose, the Duck, the Teal, the Widgeon, and all their numerous varieties.

In describing the birds of these three classes, I will put the most remarkable of each class at the beginning of their respective tribes, and give their separate history: then, after having described the chiefs of the tribe, the more ordinary sorts will naturally fall in a body, and come under a general description, behind their leaders. But before I offer to pursue this methodical arrangement, I must give the history of a bird that, from the singularity of its conformation, seems allied to no species; and should therefore be separately described; I mean the Pelican.

CHAP. II.

Of the Pelican.

THE Pelican of Africa is much larger in the body than a swan, and somewhat of the same shape and colour. Its four toes are all webbed together; and its neck in some measure resembles that of a swan: but that singularity in which it differs from all other birds is in the bill and the great pouch underneath, which are wonderful, and demand a distinct description. This enormous bill is fifteen

inches from the point to the opening of the mouth, which is a good way back behind the eyes. At the base the bill is somewhat greenish, but varies towards the end, being of a reddish blue. It is very thick in the beginning, but tapers off to the end, where it hooks downwards. The under-chap is still more extraordinary; for to the lower edges of it hangs a bag, reaching the whole length of the bill to the neck, which is said to be capable of containing fifteen quarts of water. This bag the bird has a power of wrinkling up into the hollow of the under-chap; but by opening the bill, and putting one's hand down into the bag, it may be distended at pleasure. The skin of which it is formed will then be seen of a blueish ash-colour, with many fibres and veins running over its surface. It is not covered with feathers, but a short downy substance as smooth and as soft as satin, and is attached all along the under edges of the chap to be fixed backward to the neck of the bird by proper ligaments, and reaches near half way down. When this bag is empty it is not seen; but when the bird has fished with success, it is then incredible to what an extent it is often seen dilated. For the first thing the pelican does in fishing, is to fill up the bag; and then it returns to digest its burthen at leisure. When the bill is opened to its widest extent, a person may run his head into the bird's mouth, and conceal it in this monstrous pouch, thus adapted for very singular purposes. Yet this is nothing to what Ruysch assures us, who avers that a man has been seen to hide his whole leg, boot and all, in the monstrous jaws of one of these animals. At first appearance, this would

seem impossible, as the sides of the under-chap, from which the bag depends, are not above an inch asunder when the bird's bill is first opened; but then they are capable of great separation; and it must necessarily be so, as the bird preys upon the largest fishes, and hides them by dozens in its pouch. Tertre affirms that it will hide as many fish as will serve sixty hungry men for a meal.

Such is the formation of this extraordinary bird, which is a native of Africa and America. The pelican was once also known in Europe, particularly in Russia; but it seems to have deserted our coasts. This is the bird of which so many fabulous accounts have been propagated; such as its feeding its young with its own blood, and its carrying a provision of water for them in its great reservoir in the desert. But the absurdity of the first account answers itself; and as for the latter, the pelican uses its bag for very different purposes than that of filling it with water.

Its amazing pouch may be considered as analogous to the crop in other birds, with this difference, that as theirs lies at the bottom of the gullet, so this is placed at the top. Thus, as pigeons and other birds macerate their food for their young in their crops, and then supply them, so the pelican supplies its young by a more ready contrivance, and macerates their food in its bill, or stores it for its own particular sustenance.

The ancients were particularly fond of giving this bird admirable qualities and parental affections: struck, perhaps, with its extraordinary figure, they were willing to supply it with as extraordinary appetites; and having found it with a large re-

servoir, they were pleased with turning it to the most tender and parental uses. But the truth is; the pelican is a very heavy, sluggish, voracious bird, and very ill-fitted to take those flights, or to make those cautious provisions for a distant time, which we have been told they do. Father Labat, who seems to have studied their manners with great exactness, has given us a minute history of this bird, as found in America; and from him I will borrow mine.

The pelican, says Labat, has strong wings, furnished with thick plumage of an ash-colour, as are the rest of the feathers over the whole body. Its eyes are very small, when compared to the size of its head; there is a sadness in its countenance, and its whole air is melancholy, it is as dull and reluctant in its motions as the flamingo is sprightly and active. It is slow of flight; and when it rises to fly, performs it with difficulty and labour. Nothing, as it would seem, but the spur of necessity, could make these birds change their situation, or induce them to ascend into the air: but they must either starve or fly.

They are torpid and inactive to the last degree, so that nothing can exceed their indolence but their gluttony; it is only from the stimulations of hunger that they are excited to labour: for otherwise they would continue always in fixed repose. When they have raised themselves about thirty or forty feet above the surface of the sea, they turn their head with one eye downwards, and continue to fly in that posture. As soon as they perceive a fish sufficiently near the surface, they dart down upon it with the swiftness of an arrow, seize it with

unerring certainty, and store it up in their pouch. They then rise again, though not without great labour, and continue hovering and fishing, with their head on one side as before.

This work they continue with great effort and industry till their bag is full, and then they fly to land to devour and digest at leisure the fruits of their industry. This, however, it would appear they are not long performing; for towards night they have another hungry call; and they again reluctantly go to labour. At night, when their fishing is over, and the toil of the day crowned with success, these lazy birds retire a little way from the shore; and, though with the webbed feet and clumsy figure of a goose, they will be contented to perch no where but upon trees among the light and airy tenants of the forest. There they take their repose for the night; and often spend a great part of the day, except such times as they are fishing, sitting in dismal solemnity, and as it would seem half asleep. Their attitude is, with the head resting upon their great bag, and that resting upon their breast. There they remain without motion, or once changing their situation, till the calls of hunger break their repose, and till they find it indispensably necessary to fill their magazine for a fresh meal. Thus their life is spent between sleeping and eating; and our author adds, that they are as foul as they are voracious, as they are every moment voiding excrements in heaps as large as one's fist.

The same indolent habits seem to attend them even in preparing for incubation, and defending their young when excluded. The female makes no preparation for her nest, nor seems to chuse any

place in preference to lay in; but drops her eggs on the bare ground to the number of five or six, and there continues to hatch them. Attached to the place, without any desire of defending her eggs or her young, she tamely sits and suffers them to be taken from under her. Now and then she just ventures to peck, or to cry out when a person offers to beat her off.

She feeds her young with fish macerated for some time in her bag; and when they cry, flies off for a new supply. Labat tells us that he took two of these when very young and tied them by the leg to a post stuck into the ground, where he had the pleasure of seeing the old one for several days come to feed them, remaining with them the greatest part of the day, and spending the night on the branch of a tree that hung over them. By these means they were all three become so familiar, that they suffered themselves to be handled; and the young ones very kindly accepted whatever fish he offered them. These they always put first into their bag, and then swallowed at their leisure.

It seems, however, that they are but disagreeable and useless domestics; their gluttony can scarcely be satisfied; their flesh smells very rancid, and tastes a thousand times worse than it smells. The native Americans kill vast numbers; not to eat, for they are not fit even for the banquet of a savage; but to convert their large bags into purses and tobacco-pouches. They bestow no small pains in dressing the skin with salt and ashes, rubbing it well with oil, and then forming it to their purpose. It thus becomes so soft and pliant, that the Spanish women sometimes adorn it with gold and embroidery to make work-bags of.

Yet, with all the seeming hebetude of this bird, it is not entirely incapable of instruction in a domestic state. Father Raymond assures us, that he has seen one so tame and well educated among the native Americans, that it would go off in the morning at the word of command, and return before night to its master, with its great pouch distended with plunder; a part of which the savages would make it disgorge, and a part they would permit it to reserve for itself.

"The Pelican," as Faber relates, "is not des-" titute of other qualifications. One of those " which was brought alive to the Duke of Bavaria's " court, where it lived forty years, seemed to be " possessed of very uncommon sensations. It was " much delighted in the company and conversation " of men, and in music both vocal and instrumen-" tal; for it would willingly stand," says he, " by those that sung or sounded the trumpet; and " stretching out its head, and turning its ear to the " music, listened very attentively to its harmony, " though its own voice was little pleasanter than " the braying of an ass." Gesner tells us, that the emperor Maximilian had a tame pelican which lived for above eighty years, and that always attended his army on their march. It was one of the largest of the kind, and had a daily allowance by the emperor's orders. As another proof of the great age to which the pelican lives, Aldrovandus makes mention of one of these birds that was kept several years at Mechlin, and was verily believed to be fifty years old.—We often see these birds at our shews about town.

CHAP. III.

Of the Albatross, the first of the Gull Kind.

THOUGH this is one of the largest and most formidable birds of Africa and America, yet we have but few accounts to enlighten us in its history. The figure of the bird is thus described by Edwards: "The body is rather larger than that of a pelican; "and its wings when extended ten feet from tip "to tip. The bill, which is six inches long, is "yellowish, and terminates in a crooked point. "The top of the head is of a bright brown; the "back is of a dirty deep spotted brown; and the "belly and under the wings is white; the toes, "which are webbed, are of a flesh-colour."

Such are the principal traits in this bird's figure: but these lead us a very short way in its history; and our naturalists have thought fit to say nothing more. However, I am apt to believe this bird to be the same with that described by Wicquefort, under the title of the Alcatraz; its size, its colours, and its prey, incline me to think so. He describes it as a kind of great gull, as large in the body as a goose, of a brown colour, with a long bill, and living upon fish, of which they kill great numbers.

This bird is an inhabitant of the tropical climates, and also beyond them as far as the Straits of Magellan in the South Seas. It is one of the most fierce and formidable of the aquatic tribe, not only living upon fish, but also such small water-fowl as it can take by surprize. It preys as all the gull kind do,

upon the wing; and chiefly pursues the flying-fish, that are forced from the sea by the dolphins. The ocean in that part of the world presents a very different appearance from the seas with which we are surrounded. In our seas we see nothing but a dreary expanse, ruffled by winds, and seemingly forsaken by every class of animated nature. But the tropical seas, and the distant southern latitudes beyond them, are all alive with birds and fishes, pursuing and pursued. Every various species of the gull-kind are there seen hovering on the wing, at a thousand miles distance from the shore. The flying-fish are every moment rising to escape from their pursuers of the deep, only to encounter equal dangers in the air. Just as they rise, the dolphin is seen to dart after them, but generally in vain; the gull has more frequent success, and often takes them at their rise; while the albatross pursues the gull, and obliges it to relinquish its prey: so that the whole horizon presents but one living picture of rapacity and evasion.

So much is certain; but how far we are to credit Wiçquefort, in what he adds concerning this bird, the reader is left to determine. "As these birds, "except when they breed, live entirely remote "from land, so they are often seen, as it should "seem, sleeping in the air. At night, when they "are pressed by slumber, they rise into the clouds "as high as they can; there, putting their head "under one wing, they beat the air with the other, "and seem to take their ease. After a time, how-"ever, the weight of their bodies, only thus half "supported, brings them down; and they are seen "descending, with a pretty rapid motion, to the

" surface of the sea. Upon this they again put forth " their efforts to rise; and thus alternately ascend " and descend at their ease. But it sometimes hap- " pens," says my author, " that, in these slumber- " ing flights, they are off their guard, and fall upon " deck, where they are taken."

What truth there may be in this account, I will not take it upon me to determine; but certain it is, that few birds float upon the air with more ease than the albatross, or support themselves a longer time in that element. They seem never to feel the accesses of fatigue; but night and day upon the wing are always prowling, yet always emaciated and hungry.

But though this bird be one of the most formidable tyrants of the deep, there are some associations which even tyrants themselves form, to which they are induced either by caprice or necessity. The albatross seems to have a peculiar affection for the penguin, and a pleasure in its society. They are always seen to chuse the same places for breeding; some distant, uninhabited island, where the ground slants to the sea, as the penguin is not formed either for flying or climbing. In such places their nests are seen together, as if they stood in need of mutual assistance and protection. Captain Hunt, who for some time commanded at our settlement upon Falkland Islands, assures me, that he was often amazed at the union preserved between these birds, and the regularity with which they built together. In that bleak and desolate spot, where the birds had long continued undisturbed possessors, and no way dreaded the encroachments of men, they seemed to make their abode as comfortable as they expected it to be

lasting. They were seen to build with an amazing degree of uniformity; their nests covering fields by thousands, and resembling a regular plantation. In the middle, on high, the albatross raised its nest, on heath sticks and long grass, about two feet above the surface: round this the penguins made their lower settlements, rather in holes in the ground; and most usually eight penguins to one albatross. Nothing is a stronger proof of M. Buffon's fine observation, that the presence of man not only destroys the society of meaner animals, but their instincts also. These nests are now, I am told, totally destroyed; the society is broke up; and albatross and penguin have gone to breed upon more desert shores, in greater security *.

* [The Albatross, or man of war bird, has a straight bill, the upper mandible of which is crooked at the point, and the lower one truncated: the nostrils are oval, wide, prominent, and placed on each side the bill: the feet have three toes, all placed forwards. They are found in most seas, but principally in the ocean between the tropics. They are very voracious, and feed on many sorts of fish and marine animals; and their arrival is a sure presage of shoals of fish following. At their first arrival at Kamtschatka, they are extremely lean, but soon grow immensely fat; and at this time so voracious are they, that they will swallow a salmon four or five pounds weight; but as they cannot take the whole of it into their stomachs at once, part of the tail end will often remain out of the mouth. Before the middle of August they migrate to Patagonia and Falkland's islands where, about the end of September, they build their nests on the ground, laying two eggs larger than that of a goose. While the female is sitting the male is constantly on the wing, supplying her with food; and during this time they are so tame as to suffer themselves to be shoved off the nest while the eggs are taken away.

In the West-Indies these birds are said to foretel the arrival of ships, which is frequently true, and may arise from a very natural cause. They always fish in fine weather; so that, when the

CHAP. IV.

The Cormorant.

THE Cormorant is about the size of a large Muscovy duck, and may be distinguished from all other birds of this kind, by its four toes being united by membranes together; and by the middle toe being toothed or notched, like a saw, to assist it in holding its fishy prey. The head and neck of this bird are of a sooty blackness; and the body thick and heavy, more inclining in figure to that of the goose than the gull. The bill is straight, till near the end, where the upper chap bends into a hook.

But notwithstanding the seeming heaviness of its make, there are few birds more powerfully predaceous. As soon as the winter approaches, they are seen dispersed along the sea-shore, and ascending up the mouths of fresh-water rivers, carrying destruction to all the finny tribe. They are most remarkably voracious, and have a most sudden digestion. Their appetite is for ever craving, and never satisfied. This gnawing sensation may probably be increased by the great quantity of small worms that fill their intestines, and which their unceasing gluttony contributes to engender.

Thus formed with the grossest appetites, this unclean bird has the most rank and disagreeable smell,

wind is rough at sea, they retire into the harbours, where they are protected by the land; and the same wind that blows them in, brings likewise whatever vessels may be exposed to its fury, to seek a retreat from it.]

and is more fœtid than even carrion, when in its most healthful state. Its form, says an ingenious modern, is disagreeable; its voice is hoarse and croaking; and all its qualities obscene. No wonder then that Milton should make Satan personate this bird, when he sent him upon the basest purposes, to survey with pain the beauties of Paradise, and to sit devising death on the tree of life*. It has been remarked, however, of our poet, that the making a water-fowl perch on a tree, implied no great acquaintance with the history of nature. In vindication of Milton, Aristotle expressly says, that the cormorant is the only water-fowl that sits on trees. We have already seen the pelican of this number; and the cormorant's toes seem as fit for perching upon trees as for swimming; so that our epic bard seems to have been as deeply versed in natural history as in criticism.

Indeed, this bird seems to be of a multiform nature; and wherever fish are to be found, watches their migrations. It is seen as well by land as sea; it fishes in fresh-water lakes, as well as in the depths of the ocean; it builds in the cliffs of rocks, as well as on trees; and preys not only in the day-time, but by night.

Its indefatigable nature, and its great power in catching fish, were probably the motives that induced some nations to breed this bird up tame, for the purposes of fishing; and Willughby assures us, it was once used in England for that purpose. The description of their manner of fishing is thus delivered by Faber: "When they carry them out of the

* Vide Pennant's Zoology, p. 477.

" rooms where they are kept, to the fish-pools, they
" hood-wink them, that they may not be frighted
" by the way. When they are come to the rivers,
" they take off their hoods; and having tied a lea-
" ther thong round the lower part of their necks,
" that they may not swallow down the fish they
" catch, they throw them into the river. They
" presently dive under water; and there, for a long
" time, with wonderful swiftness, pursue the fish;
" and when they have caught them, rise to the top
" of the water, and pressing the fish lightly with
" their bills, swallow them; till each bird hath,
" after this manner, devoured five or six fishes.
" Then their keepers call them to the fist, to which
" they readily fly; and, one after another, vomit up
" all their fish, a little bruised with the first nip
" given in catching them. When they have done
" fishing, setting the birds on some high place, they
" loose the string from their necks, leaving the pas-
" sage to the stomach free and open; and, for their
" reward, they throw them part of their prey; to
" each one or two fishes, which they will catch
" most dexterously, as they are falling in the air."

At present, the cormorant is trained up in every part of China for the same purpose, where there are many lakes and canals. "To this end," says Le Comte, "they are educated as men rear up spaniels
" or hawks; and one man can easily manage an
" hundred. The fisher carries them out into the
" lake, perched on the gunnel of his boat, where
" they continue tranquil, and expecting his orders
" with patience. When arrived at the proper
" place, at the first signal given each flies a dif-
" ferent way, to fulfil the task assigned it. It is

"very pleasant, on this occasion, to behold with "what sagacity they portion out the lake or the "canal where they are upon duty. They hunt "about, they plunge, they rise an hundred times to "the surface, until they have at last found their "prey. They then seize it with their beak by the "middle, and carry it without fail to their master. "When the fish is too large, they then give each "other mutual assistance: one seizes it by the "head, the other by the tail, and in this manner "carry it to the boat together. There the boat-"man stretches out one of his long oars, on which "they perch, and being delivered of their burthen, "they fly off to pursue their sport. When they are "wearied, he lets them rest for a while; but "they are never fed till their work is over. In this "manner they supply a very plentiful table; but "still their natural gluttony cannot be reclaimed "even by education. They have always, while "they fish, the same string fastened round their "throats, to prevent them from devouring their "prey, as otherwise they would at once satiate "themselves, and discontinue their pursuit the mo-"ment they had filled their bellies."

As for the rest, the cormorant is the best fisher of all birds; and though fat and heavy with the quantity it devours, is nevertheless generally upon the wing. The great activity with which it pursues, and from a vast height drops down to dive after its prey, offers one of the most amusing spectacles to those who stand upon a cliff on the shore. This large bird is seldom seen in the air, but where there are fish below; but then they must be near the surface, before it will venture to souse upon them. If

they are at a depth beyond what the impetus of its flight makes the cormorant capable of diving to, they certainly escape him; for this bird cannot move so fast under water, as the fish can swim. It seldom, however, makes an unsuccessful dip; and is often seen rising heavily, with a fish larger than it can readily devour. It sometimes also happens, that the cormorant has caught the fish by the tail; and consequently the fins prevent its being easily swallowed in that position. In this case, the bird is seen to toss its prey above its head, and very dexterously to catch it, when descending, by the proper end, and so swallow it with ease *.

CHAP. V.

Of the Gannet, or Soland Goose.

THE Gannet is of the size of a tame goose, but its wings much longer, being six feet over. The bill is six inches long, straight almost to the point, where it inclines down, and the sides are irregularly jagged, that it may hold its prey with greater security. It differs from the cormorant in size, being larger; in its colour, which is chiefly white; and by its having no nostrils, but in their place a long furrow, that reaches almost to the end of the bill.

* [These birds build their nests on the highest parts of the cliffs that hang over the sea: they lay three or more pale green eggs, about the size of those of a goose. In winter they disperse themselves along the shores, visiting the fresh water ponds and lakes, where they commit great depredations among the fish.]

From the corner of the mouth is a narrow slip of black bare skin, that extends to the hind part of the head; beneath the skin is another that, like the pouch of the pelican, is dilatable, and of size sufficient to contain five or six entire herrings, which in the breeding season it carries at once to its mate or its young.

These birds, which subsist entirely upon fish, chiefly resort to those uninhabited islands where their food is found in plenty, and men seldom come to disturb them. The islands to the north of Scotland, the Skelig islands off the coasts of Kerry, in Ireland, and those that lie in the north sea off Norway, abound with them. But it is on the Bass island, in the Firth of Edinburgh, where they are seen in the greatest abundance. "There is a small "island," says the celebrated Harvey, "called the "Bass, not more than a mile in circumference. "The surface is almost wholly covered, during the "months of May and June with their nests, their "eggs and young. It is scarcely possible to walk "without treading on them: the flocks of birds "upon the wing are so numerous as to darken the "air like a cloud; and their noise is such, that one "cannot, without difficulty, be heard by the per-"son next to him. When one looks down upon "the sea from the precipice, its whole surface seems "covered with infinite numbers of birds of differ-"ent kinds, swimming and pursuing their prey. "If, in sailing round the island, one surveys its "hanging cliffs, in every crag or fissure of the "broken rocks may be seen innumerable birds, of "various sorts and sizes, more than the stars of "heaven when viewed in a serene night. If they

"are viewed at a distance, either receding, or in "their approach to the island, they seem like one "vast swarm of bees."

They are not less frequent upon the rocks of St. Kilda. Martin assures us, that the inhabitants of that small island, consume annually near twenty-three thousand young birds of this species, besides an amazing quantity of their eggs. On these they principally subsist throughout the year; and from the number of these visitants, make an estimate of their plenty for the season. They preserve both the eggs and fowls in small pyramidal stone buildings, covering them with turf-ashes, to prevent the evaporation of their moisture.

The gannet is a bird of passage. In winter, it seeks the more southern coasts of Cornwall, hovering over the shoals of herrings and pilchards that then come down from the northern seas: its first appearance in the northern islands is in the beginning of spring; and it continues to breed till the end of summer. But, in general, its motions are determined by the migrations of the immense shoals of herrings that come pouring down at that season through the British Channel, and supply all Europe as well as this bird with their spoil. The gannet assiduously attends the shoal in their passage, keeps with them in their whole circuit round our island, and shares with our fishermen this exhaustless banquet. As it is strong of wing, it never comes near the land; but is constant to its prey. Wherever the gannet is seen, it is sure to announce to the fishermen the arrival of the finny tribe; they then prepare their nets, and take the herrings by millions at a draught; while the gannet, who came to give

the first information, comes, though an unbidden guest, and often snatches its prey from the fisherman even in his boat. While the fishing season continues, the gannets are busily employed; but when the pilchards disappear from our coasts, the gannet takes its leave, to keep them company.

The cormorant has been remarked for the quickness of his sight; yet in this the gannet seems to exceed him. It is possessed of a transparent membrane under the eye-lid, with which it covers the whole eye at pleasure, without obscuring the sight in the smallest degree. This seems a necessary provision for the security of the eyes of so weighty a creature, whose method of taking prey, like that of the cormorant, is by darting headlong down from an height of an hundred feet and more into the water to seize it. These birds are sometimes taken at sea, by fastening a pilchard to a board, which they leave floating. The gannet instantly pounces down from above upon the board, and is killed or maimed by the shock of a body where it expected no resistance *.

These birds breed but once a year, and lay but one egg, which being taken away, they lay another; if that is also taken, then a third; but never more for that season. Their egg is white, and rather less than that of the common goose; and their nest large, composed of such substances as are found floating on the surface of the sea. The young

* [Mr. Pennant says, that one of these birds flying over Penzance in Cornwall, saw some pilchards lying on a fir plank, where they had been placed for curing; and darting itself down with great violence, it struck its bill quite through an inch and quarter plank: it was killed on the spot.]

birds, during the first year, differ greatly in colour from the old ones; being of a dusky hue, speckled with numerous triangular white spots; and at that time resembling the colours of the speckled diver.

The Bass Island, where they chiefly breed, belongs to one proprietor; so that care is taken never to fright away the birds when laying, or to shoot them upon the wing. By that means, they are so confident as to alight and feed their young ones close beside you. They feed only upon fish, as was observed; yet the young gannet is counted a great dainty by the Scots, and is sold very dear; so that the lord of the islet makes a considerable annual profit by the sale.

CHAP. VI.

Of the smaller Gulls and Petrels.

HAVING described the manners of the great ones of this tribe, those of the smaller kinds may be easily inferred. They resemble the more powerful in their appetites for prey, but have not such certain methods of obtaining it. In general, therefore, the industry of this tribe and their audacity increase in proportion to their imbecility; the great gulls live at the most remote distance from man; the smaller are obliged to reside wherever they can take their prey; and to come into the most populous places when solitude can no longer grant them a supply. In this class we may place the Gull, properly so called, of which there are above twenty dif-

ferent kinds; the Petrel, of which there are three; and the Sea Swallow, of which there are as many. The gulls may be distinguished by an angular knob on the lower chap; the petrels by their wanting this knob; and the sea-swallow by their bills, which are straight, slender, and sharp pointed. They all, however, agree in their appetites, and their places of abode.

The gull, and all its varieties, is very well known in every part of the kingdom. It is seen with a slow-sailing flight hovering over rivers to prey upon the smaller kinds of fish; it is seen following the plowman in fallow fields to pick up insects; and when living animal food does not offer, it it has even been known to eat carrion, and whatever else of the kind that offers. Gulls are found in great plenty in every place; but it is chiefly round our boldest rockiest shores that they are seen in the greatest abundance; it is there that the gull breeds and brings up its young; it is there that millions of them are heard screaming with discordant notes for months together.

Those who have been much upon our coasts know that there are two different kinds of shores; that which slants down to the water with a gentle declivity, and that which rises with a precipitate boldness, and seems set as a bulwark to repel the force of the invading deeps. It is to such shores as these that the whole tribe of the gull-kind resort, as the rocks offer them a retreat for their young, and the sea a sufficient supply. It is in the cavities of these rocks, of which the shore is composed, that the vast variety of sea-fowls retire to breed in safety. The waves beneath, that continually beat at the

base, often wear the shore into an impending boldness; so that it seems to jut out over the water, while the raging of the sea makes the place inaccessible from below. These are the situations to which sea-fowl chiefly resort, and bring up their young in undisturbed security.

Those who have never observed our boldest coasts have no idea of their tremendous sublimity. The boasted works of art, the highest towers, and the noblest domes, are but ant-hills when put in comparison: the single cavity of a rock often exhibits a coping higher than the cieling of a gothic cathedral. The face of the shore offers to the view a wall of massive stone ten times higher than our tallest steeples. What should we think of a precipice three quarters of a mile in height? and yet the rocks of St. Kilda are still higher! What must be our awe to approach the edge of that impending height, and to look down on the unfathomable vacuity below; to ponder on the terrors of falling to the bottom, where the waves that swell like mountains are scarcely seen to curl on the surface, and the roar of an ocean a thousand leagues broad appears softer than the murmur of a brook! It is in these formidable mansions that myriads of sea-fowls are for ever seen sporting, flying in security down the depth, half a mile beneath the feet of the spectator. The crow and the chough avoid those frightful precipices; they chuse smaller heights, where they are less exposed to the tempest: it is the cormorant, the gannet, the tarrock, and the terne, that venture to these dreadful retreats, and claim an undisturbed possession. To the spectator from above, those birds, though some of them are above

the size of an eagle, seem scarcely as large as a swallow; and their loudest screaming is scarcely perceptible.

But the generality of our shores are not so formidable. Though they may rise two hundred fathom above the surface, yet it often happens that the water forsakes the shore at the departure of the tide, and leaves a noble and delightful walk for curiosity on the beach. Not to mention the variety of shells with which the sand is strewed, the lofty rocks that hang over the spectator's head, and that seem but just kept from falling, produce in him no unpleasing gloom. If to this be added the fluttering, the screaming, and the pursuits of myriads of water-birds, all either intent on the duties of incubation, or roused at the presence of a stranger, nothing can compose a scene of more peculiar solemnity. To walk along the shore when the tide is departed, or to sit in the hollow of a rock when it is come in, attentive to the various sounds that gather on every side, above and below, may raise the mind to its highest and noblest exertions. The solemn roar of the waves swelling into and subsiding from the vast caverns beneath, the piercing note of the gull, the frequent chatter of the guillemot, the loud note of the auk, the scream of the heron, and the hoarse deep periodical croaking of the cormorant, all unite to furnish out the grandeur of the scene, and turn the mind to him who is the Essence of all sublimity.

Yet it often happens that the contemplation of a sea-shore produces ideas of an humbler kind, yet still not unpleasing. The various arts of these birds to seize their prey, and sometimes to elude their

pursuers, their society among each other, and their tenderness and care of their young, produce gentler sensations. It is ridiculous also now and then to see their various ways of imposing upon each other. It is common enough, for instance, with the arctic gull, to pursue the lesser gulls so long, that they drop their excrements through fear, which the hungry hunter quickly gobbles up before it ever reaches the water. In breeding too they have frequent contests: one bird who has no nest of her own attempts to dispossess another, and put herself in the place. This often happens among all the gull kind; and I have seen the poor bird, thus displaced by her more powerful invader, sit near the nest in pensive discontent, while the other seemed quite comfortable in her new habitation. Yet this place of pre-eminence is not easily obtained; for the instant the invader goes to snatch a momentary sustenance, the other enters upon her own, and always ventures another battle before she relinquishes the justness of her claim. The contemplation of a cliff thus covered with hatching-birds, affords a very agreeable entertainment; and as they sit upon the ledges of the rocks, one above another, with their white breasts forward, the whole groupe has not unaptly been compared to an apothecary's shop.

These birds, like all others of the rapacious kind, lay but few eggs; and hence, in many places, their number is daily seen to diminish. The lessening of so many rapacious birds may, at first sight, appear a benefit to mankind; but when we consider how many of the natives of our islands are sustained by their flesh, either fresh or salted, we shall find no satisfaction in thinking that these poor people may

in time lose their chief support. The gull in general, as was said, builds on the ledges of rocks, and lays from one egg to three, in a nest formed of long grass and sea-weed. Most of the kind are fishy tasted, with black stringy flesh; yet the young ones are better food: and of these, with several other birds of the penguin kind, the poor inhabitants of our northern islands make their wretched banquets. They have been long used to no other food; and even salted gull can be relished by those who know no better. Almost all delicacy is a relative thing; and the man who repines at the luxuries of a well-served table, starves not for want but from comparison. The luxuries of the poor are indeed coarse to us, yet still they are luxuries to those ignorant of better; and it is probable enough that a Kilda or a Feroe man may be found to exist, outdoing Apicius himself, in consulting the pleasures of the table. Indeed, if it be true that such meat as is the most dangerously earned is the sweetest, no men can dine so luxuriously as these, as none venture so hardly in the pursuit of a dinner. In Jacobson's History of the Feroe Islands, we have an account of the method in which those birds are taken; and I will deliver it in his own simple manner.

" It cannot be expressed with what pains and " danger they take these birds in those high steep " cliffs, whereof many are two hundred fathoms " high. But there are men apt by nature, and " fit for the work, who take them usually in two " manners: they either climb from below into " these high promontories, that are as steep as a " wall; or they let themselves down with a rope

" from above. When they climb from below, they
" have a pole five or six ells long, with an iron
" hook at the end, which they that are below in
" the boat, or on the cliff, fasten unto the man's
" girdle, helping him up thus to the highest place
" where he can get footing: afterwards they also
" help up another man; and thus several climb up
" as high as they possibly can; and where they
" find difficulty, they help each other up, by thrust-
" ing one another up with their poles. When the
" first hath taken footing, he draws the other up
" to him, by the rope fastened to his waist; and so
" they proceed, till they come to the place where
" the birds build. They there go about as well as
" they can, in those dangerous places; the one
" holding the rope at one end, and fixing himself
" to the rock; the other going at the other end
" from place to place. If it should happen that
" he chanceth to fall, the other that stands firm
" keeps him up, and helps him up again. But if
" he passeth safe, he likewise fastens himself till
" the other has passed the same dangerous place
" also. Thus they go about the cliffs after birds as
" they please. It often happeneth, however, the
" more is the pity, that when one doth not stand
" fast enough, or is not sufficiently strong to hold
" up the other in his fall, that they both fall down
" and are killed. In this manner some do perish
" every year."

Mr. Peter Clanson, in his description of Norway, writeth, that there was anciently a law in that country, that whosoever climbed so on the cliffs, that he fell down and died, if the body was found, before burial, his next kinsman should go the same

way; but if he durst not or could not do it, the dead body was not then to be buried in sanctified earth, as the person was too full of temerity, and his own destroyer.

" When the fowlers are come, in the manner " aforesaid, to the birds within the cliffs, where " people seldom come, the birds are so tame that " they take them with their hands; for they will " not readily leave their young. But when they " are wild, they cast a net, with which they are " provided, over them, and intangle them therein. " In the mean time, there lieth a boat beneath in " the sea, wherein they cast the birds killed; and in " this manner they can, in a short time, fill a boat " with fowl. When it is pretty fair weather, and " there is good fowling, the fowlers stay in the " cliffs seven or eight days together; for there are " here and there holes in the rocks, where they can " safely rest; and they have meat let down to them " with a line from the top of the mountain. In " the mean time some go every day to them, to " fetch home what they have taken.

" Some rocks are so difficult, that they can in " no manner get unto them from below; where- " fore they seek to come down thereunto from " above. For this purpose they have a rope, eighty " or a hundred fathoms long, made of hemp, and " three fingers thick. The fowler maketh the end " of this fast about his waist, and between his legs, " so that he can sit thereon; and is thus let down, " with the fowling-staff in his hand. Six men hold " by the rope, and let him easily down, laying a " large piece of wood on the brink of the rock, " upon which the rope glideth, that it may not be

" worn to pieces by the hard and rough edge of " the stone. They have besides, another small " line, that is fastened to the fowler's body; on " which he pulleth, to give them notice how they " should let down the great rope, either lower or " higher; or to hold still, that he may stay in the " place whereunto he is come. Here the man is " in great danger, because of the stones that are " loosened from the cliff, by the swinging of the " rope, and he cannot avoid them. To remedy " this, in some measure, he hath usually on his head " a seaman's thick and shaggy cap, which defends " him from the blows of the stones, if they be not " too big; and then it costeth him his life: never- " theless, they continually put themselves in that " danger, for the wretched body's food-sake, hoping " in God's mercy and protection, unto which the " greatest part of them do devoutly recommend " themselves when they go to work: otherwise, " they say, there is no other great danger in it, " except that it is a toilsome and artificial labour; " for he that hath not learned to be so let down, " and is not used thereto, is turned about with the " rope, so that he soon groweth giddy, and can do " nothing; but he that hath learned the art, con- " siders it as a sport, swings himself on the rope, sets " his feet against the rock, casts himself some " fathoms from thence, and shoots himself to what " place he will: he knows where the birds are, he " understands how to sit on the line in the air, and " how to hold the fowling-staff in his hand; striking " therewith the birds that come or fly away: and " when there are holes in the rocks, and it stretches " itself out, making underneath as a cieling, under

"which the birds are, he knoweth how to shoot "himself in among them, and there take firm foot- "ing. There, when he is in these holes, he maketh "himself loose of the rope, which he fastens to a "crag of the rock, that it may not slip from him to "the outside of the cliff. He then goes about in "the rock, taking the fowl, either with his hands or "with the fowling-staff. Thus, when he hath "killed as many birds as he thinks fit, he ties them "in a bundle, and fastens them to a little rope, "giving a sign, by pulling, that they should draw "them up. When he has wrought thus the whole "day, and desires to get up again, he sitteth once "more upon the great rope, giving a new sign, that "they should pull him up, or else he worketh "himself up, climbing along the rope, with his "girdle full of birds. It is also usual, where there "are not folks enough to hold the great rope, for "the fowler to drive a post sloping into the earth, "and to make a rope fast thereto, by which he "lets himself down, without any body's help, to "work in the manner aforesaid. Some rocks are "so formed that the person can go into their cavi- "ties by land.

"These manners are more terrible and danger- "ous to see than to describe; especially if one con- "siders the steepness and height of the rocks, it "seeming impossible for a man to approach them, "much less to climb or descend. In some places, "the fowlers are seen climbing where they can "only fasten the ends of their toes and fingers; "not shunning such places, though there be an "hundred fathom between them and the sea. It "is a dear meat for these poor people, for which

"they must venture their lives; and many, after "long venturing, do at last perish therein.

"When the fowl is brought home, a part thereof "is eaten fresh; another part, when there is much "taken, being hung up for winter provision. The "feathers are gathered, to make merchandise of, "for other expences. The inhabitants get a great "many of these fowls, as God giveth his blessing "and fit weather. When it is dark and hazy, they "take most; for then the birds stay in the rocks: "but in clear weather, and hot sun-shine, they seek "the sea. When they prepare to depart for the "season, they keep themselves most there, sitting "on the clifts towards the sea-side, where people "get at them sometimes with boats, and take them "with fowling-staves."

Such is the account of this historian; but we are not to suppose that all the birds caught in this manner are of the gull kind: on the contrary, numbers of them are of the penguin kind; auks, puffins, and guillemots. These all come, once a season, to breed in these recesses; and retire in winter, to fish in more southern climates.

CHAP. VII.

Of the Penguin Kind: and first of the Great Magellanic Penguin.

THE gulls are long-winged, swift flyers, that hover over the most extensive seas, and dart down upon such fish as approach too near the surface.

The Penguin kind are but ill fitted for flight, and still less for walking. Every body must have seen the aukward manner in which a duck, either wild or tame, attempts to change place: they must recollect with what softness and ease a gull or a kite waves its pinions, and with what a coil and flutter the duck attempts to move them; how many strokes it is obliged to give, in order to gather a little air; and even when it is thus raised, how soon it is fatigued with the force of its exertions, and obliged to take rest again. But the duck is not, in its natural state, half so unwieldy an animal as the whole tribe of the penguin kind. Their wings are much shorter, more scantily furnished with quills, and the whole pinion placed too forward, to be usefully employed. For this reason, the largest of the penguin kind, that have a thick, heavy body to raise, cannot *fly* at all. Their wings serve them rather as paddles to help them forward, when they attempt to move swiftly; and in a manner walk along the surface of the water. Even the smaller kinds seldom fly by choice; they flutter their wings with the swiftest efforts without making way; and though they have but a small weight of body to sustain, yet they seldom venture to quit the water where they are provided with food and protection.

As the wings of the penguin tribe are unfitted for flight, their legs are still more aukwardly adapted for walking. This whole tribe have all above the knee hid within the belly; and nothing appears but two short legs, or feet, as some would call them, that seem stuck under the rump, and upon which the animal is very aukwardly supported. They seem, when sitting or attempting to walk, like a dog that

has been taught to sit up, or to move a minuet. Their short legs drive the body in progression from side to side; and were they not assisted by their wings they could scarcely move faster than a tortoise.

This aukward position of the legs, which so unqualifies them for living upon land, adapts them admirably for a residence in water. In that, the legs placed behind the moving body, pushes it forward with greater velocity; and these birds, like Indian canoes, are the swiftest in the water, by having their paddles in the rear.

Nor are they less qualified for diving than swimming. By ever so little inclining their bodies forward, they lose their centre of gravity; and every stroke from their feet only tends to sink them the faster. In this manner they can either dive at once to the bottom, or swim between two waters; where they continue fishing for some minutes, and then ascending, catch an instantaneous breath, to descend once more to renew their operations. Hence it is that these birds, which are so defenceless, and so easily taken by land, are impregnable by water. If they perceive themselves pursued in the least, they instantly sink, and shew nothing more than their bills, till the enemy is withdrawn. Their very internal conformation assists their power of keeping long under water. Their lungs are fitted with numerous vacuities, by which they can take in a very large inspiration; and this probably serves them for a length of time.

As they never visit land, except when they come to breed, their feathers take a colour from their situation. That part of them which has been con-

tinually bathed in the water, is white; while their backs and wings are of different colours, according to the different species. They are also covered more warmly all over the body with feathers, than any other birds whatever; so that the sea seems entirely their element; and but for the necessary duties of propagating the species, we should scarcely have the smallest opportunity of seeing them, and should be utterly unacquainted with their history.

Of all this tribe, the Magellanic Penguin is the largest, and the most remarkable. In size it approaches near that of a tame goose. It never flies, as its wings are very short, and covered with stiff hard feathers, and are always seen expanded, and hanging uselessly down by the bird's sides. The upper part of the head, back and rump, are covered with stiff, black feathers; while the belly and breast, as is common with all of this kind, are of a snowy whiteness, except a line of black that is seen to cross the crop. The bill, which from the base to about half way is covered with wrinkles, is black, but narked crosswise with a stripe of yellow. They walk erect with their heads on high, their fin-like wings hanging down like arms; so that to see them at a distance, they look like so many children with white aprons. From hence they are said to unite in themselves the qualities of men, fowls, and fishes. Like men, they are upright; like fowls they are feathered; and like fishes, they have fin-like instruments, that beat the water before, and serve for all the purposes of swimming rather than flying.

They feed upon fish; and seldom come ashore, except in the breeding season. As the seas in that

part of the world abound with a variety, they seldom want food; and their extreme fatness seems a proof of the plenty in which they live. They dive with great rapidity, and are voracious to a great degree. One of them, described by Clusius, though but very young, would swallow an entire herring at a mouthful, and often three successively before it was appeased. In consequence of this gluttonous appetite, their flesh is rank and fishy; though our sailors say, that *it is pretty good eating*. In some the flesh is so tough, and the feathers so thick, that they stand the blow of a scymitar without injury.

They are a bird of society; and especially when they come on shore, they are seen drawn up in rank and file, upon the ledge of a rock, standing together with the albatross, as if in consultation. This is previous to their laying, which generally begins in that part of the world in the month of November. Their preparations for laying are attended with no great trouble, as a small depression in the earth, without any other nest, serves for this purpose. The warmth of their feathers and the heat of their bodies is such, that the progress of incubation is carried on very rapidly.

But there is a difference in the manner of this bird's nestling in other countries; which I can only ascribe to the frequent disturbances it has received from man or quadrupeds in its recesses. In some places, instead of contenting itself with a superficial depression in the earth, the penguin is found to burrow two or three yards deep: in other places it is seen to forsake the level, and to clamber up the ledge of a rock, where it lays its egg, and hatches it in that bleak, exposed situation. These precau-

tions may probably have been taken, in consequence of dear-bought experience. In those countries where the bird fears for her own safety, or that of her young, she may providentially provide against danger, by digging, or even by climbing; for both which she is but ill adapted by nature. In those places, however, where the penguin has had but few visits from man, her nest is made, with the most confident security, in the middle of some large plain, where they are seen by thousands. In that unguarded situation, neither expecting nor fearing a powerful enemy, they continue to sit brooding; and even when man comes among them, have at first no apprehension of their danger. Some of this tribe have been called, by our seamen, the Booby, from the total insensibility which they shew when they are sought to their destruction. But it is not considered that these birds have never been taught to know the dangers of an human enemy: it is against the fox or the vulture that they have learned to defend themselves; but they have no idea of injury from a being so very unlike their natural opposers. The penguins, therefore, when our seamen first came among them, tamely suffered themselves to be knocked on the head, without even attempting an escape. They have stood to be shot at in flocks, without offering to move, in silent wonder, till every one of their number has been destroyed. Their attachment to their nests was still more powerful; for the females tamely suffered the men to approach and take their eggs without any resistance. But the experience of a few of those unfriendly visits, has long since taught them to be more upon their guard in chusing their situa-

tions; or to leave those retreats where they were so little able to oppose their invaders.

The penguin lays but one egg; and, in frequented shores, is found to burrow like a rabbit: sometimes three or four take possession of one hole, and hatch their young together. In the holes of the rocks, where Nature has made them a retreat, several of this tribe, as Linnæus assures us, are seen together. There the females lay their single egg in a common nest, and sit upon this their general possession by turns; while one is placed as a centinel, to give warning of approaching danger. The egg of the penguin, as well as of all this tribe, is very large for the size of the bird, being generally found bigger than that of a goose. But as there are many varieties of the penguin, and as they differ in size, from that of a Muscovy duck to a swan, the eggs differ in the same proportion.

CHAP. VIII.

Of the Auk, Puffin, and other Birds of the Penguin Kind.

Of a size far inferior to the penguin, but with nearly the same form, and exactly of the same appetites and manners, there is a very numerous tribe. These frequent our shores, and, like the penguin, have their legs placed behind. They have short wings, which are not totally incapable of flight; with round bills for seizing their prey, which is fish. They live upon the water, in which they

are continually seen diving; and seldom venture upon land, except for the purposes of continuing their kind.

The first of this smaller tribe is the Great Northern Diver, which is nearly of the size of a goose: it is beautifully variegated all over with many stripes, and differs from the penguin, in being much slenderer and more elegantly formed. The Grey Speckled Diver does not exceed the size of a Muscovy duck; and, except in size, greatly resembles the former. The Auk, which breeds on the islands of St. Kilda, and chiefly differs from the penguin, in size and colour. It is smaller than a duck; and the whole of the breast and belly, as far as the middle of the throat, is white. The Guillemot is about the same size; it differs from the auk, in having a longer, a slenderer, and a straighter bill. The Scarlet Throated Diver may be distinguished by its name; and the Puffin or Coulterneb, is one of the most remarkable birds we know.

Words cannot easily describe the form of the bill of the puffin, which differs so greatly from that of any other bird. Those who have seen the coulter of a plough, may form some idea of the beak of this odd-looking animal. The bill is flat; but, very different from that of the duck, its edge is upwards. It is of a triangular figure, and ending in a sharp point; the upper chap bent a little downward, where it is joined to the head: and a certain callous substance encompassing its base, as in parrots. It is of two colours; ash-coloured near the base, and red towards the point. It has three furrows or grooves impressed in it; one in the livid part, two in the red. The eyes are fenced with a protuberant

skin, of a livid colour; and they are grey or ash-coloured. These are marks sufficient to distinguish this bird by; but its value to those in whose vicinity it breeds, renders it still more an object of curiosity.

The puffin, like all the rest of this kind, has its legs thrown so far back, that it can hardly move without tumbling. This makes it rise with difficulty, and subject to many falls before it gets upon the wing; but as it is a small bird, not much bigger than a pigeon, when it once rises, it can continue its flight with great celerity.

Both this and all the former build no nest; but lay their eggs either in the crevices of rocks, or in holes under ground near the shore. They chiefly chuse the latter situation; for the puffin, the auk, the guillemot, and the rest, cannot easily rise to the nest when in a lofty situation. Many are the attempts these birds are seen to make to fly up to those nests which are so high above the surface. In rendering them inaccessible to mankind, they often render them almost inaccessible to themselves. They are frequently obliged to make three or four efforts, before they can come at the place of incubation. For this reason the auk and guillemot, when they have once laid their single egg, which is extremely large for the size, seldom forsake it until it is excluded. The male, who is better furnished for flight, feeds the female during this interval; and so bare is the place where she sits, that the egg would often roll down from the rock, did not the body of the bird support it.

But the puffin seldom chuses these inaccessible and troublesome heights for its situation. Relying

on its courage, and the strength of its bill, with which it bites most terribly, it either makes or finds an hole in the ground, where to lay and bring forth its young. All the winter these birds, like the rest, are absent; visiting regions too remote for discovery. At the latter end of March, or the beginning of April, come over a troop of their spies or harbingers, that stay two or three days, as it were to view and search out for their former situations, and see whether all be well. This done, they once more depart; and, about the beginning of May, return again with the whole army of their companions. But if the season happens to be stormy and tempestuous, and the sea troubled, the unfortunate voyagers undergo incredible hardships; and they are found, by hundreds, cast away upon the shores, lean, and perished with famine*. It is most probable, therefore, that this voyage is performed more on the water than in the air; and as they cannot fish in stormy weather, their strength is exhausted before they can arrive at their wished-for harbour.

The puffin, when it prepares for breeding, which always happens a few days after its arrival, begins to scrape up an hole in the ground not far from the shore; and when it has some way penetrated the earth, it then throws itself upon its back, and with bill and claws thus burrows inward, till it has dug an hole with several windings and turnings, from eight to ten feet deep. It particularly seeks to dig under a stone, where it expects the greatest security. In this fortified retreat it lays one egg; which, though

* Willughby's Ornith. p. 326.

the bird be not much bigger than a pigeon, is of the size of a hen.

When the young one is excluded, the parent's industry and courage is incredible. Few birds or beasts will venture to attack them in their retreats. When the great sea-raven, as Jacobson informs us, comes to take away their young, the puffins boldly oppose him. Their meeting affords a most singular combat. As soon as the raven approaches, the puffin catches him under the throat with its beak, and sticks its claws into his breast, which makes the raven, with a loud screaming, attempt to get away; but the little bird still holds fast to the invader, nor lets him go till they both come to the sea, where they drop down together, and the raven is drowned: yet the raven is but too often successful; and invading the puffin at the bottom of its hole, devours both the parent and its family.

But were a punishment to be inflicted for immorality in irrational animals, the puffin is justly a sufferer from invasion, as it is often itself one of the most terrible invaders. Near the Isle of Anglesey, in an islet called Priesholm, their flocks may be compared, for multitude, to swarms of bees. In another islet, called the Calf of Man, a bird of this kind, but of a different species, is seen in great abundance. In both places, numbers of rabbits are found to breed; but the puffin, unwilling to be at the trouble of making an hole, when there is one ready made, dispossesses the rabbits, and it is not unlikely destroys their young. It is in these unjustly acquired retreats that the young puffins are found in great numbers, and become a very valuable acquisition to the natives of the place. The old ones

(I am now speaking of the Manks puffin) early in the morning, at break of day, leave their nests and young, and even the island, nor do they return till night-fall. All this time they are diligently employed in fishing for their young; so that their retreats on land, which in the morning were loud and clamorous, are now still and quiet, with not a wing stirring till the approach of dusk, when their screams once more announce their return. Whatever fish, or other food, they have procured in the day, by night begins to suffer a kind of half digestion, and is reduced to an oily matter, which is ejected from the stomach of the old ones into the mouth of the young. By this they are nourished, and become fat to an amazing degree. When they are arrived to their full growth, they who are intrusted by the lord of the island, draw them from their holes; and, that they may more readily keep an account of the number they take, cut off one foot as a token. Their flesh is said to be excessively rank, as they feed upon fish, especially sprats and sea-weed; however, when they are pickled and preserved with spices, they are admired by those who are fond of high eating. We are told, that formerly their flesh was allowed by the church on Lenten days. They were, at that time, also taken by ferrets, as we do rabbits. At present, they are either dug out, or drawn out, from their burrows, with an hooked stick. They bite extremely hard, and keep such fast hold of whatsoever they seize upon, as not to be easily disengaged. Their noise when taken is very disagreeable, being like the efforts of a dumb person attempting to speak.

The constant depredation, which these birds annually suffer, does not in the least seem to intimidate them, or drive them away: on the contrary, as the people say, the nest must be robbed, or the old ones will breed there no longer. All birds of this kind lay but one egg; yet if that be taken away, they will lay another, and so on to a third; which seems to imply that robbing their nests does not much intimidate them from laying again. Those, however, whose nests have been thus destroyed, are often too late in bringing up their young; who, if they be not fledged and prepared for migration when all the rest depart, are left at land, to shift for themselves. In August the whole tribe is seen to take leave of their summer residence; nor are they observed any more till the return of the ensuing spring. It is probable that they sail away to more southern regions, as our mariners frequently see myriads of water-fowl upon their return, and steering usually to the north. Indeed, the coldest countries seem to be their most favoured retreats; and the number of water-fowl is much greater in those colder climates, than in the warmer regions, near the line. The quantity of oil which abounds in their bodies, serves as a defence against cold, and preserves them in vigour against its severity; but the same provision of oil is rather detrimental in warm countries, as it turns rancid, and many of them die of disorders which arise from its putrefaction. In general, however, water-fowl can be properly said to be of no climate; the element upon which they live being their proper residence. They necessarily spend a few months of summer upon land, to bring up their young: but the rest of their

time is probably consumed in their migrations, or near some unknown coasts, where their provision of fish is found in greatest abundance.

Before I go to the third general division of water-fowls, it may not be improper to observe, that there is one species of round-billed water-fowl, that does not properly lie within any of the former distributions. This is the Gooseander; a bird with the body and wing shaped like those of the penguin kind, but with legs not hid in the belly. It may be distinguished from all others by its bill, which is round, hooked at the point, and toothed, both upper and under chap, like a saw. Its colours are various and beautiful: however, its manners and appetites entirely resemble those of the Diver. It feeds upon fish, for which it dives; and is said to build its nest upon trees, like the heron and the cormorant. It seems to form the shade between the penguin and the goose kind: having a round bill, like the one; and unembarrassed legs, like the other. In the shape of the head, neck, and body, it resembles them both.

CHAP. IX.

Of Birds of the Goose Kind, properly so called.

THE Swan, the Goose, and the Duck, are leaders of a numerous, useful, and beautiful tribe of birds, that we have reclaimed from a state of nature, and have taught to live in dependence about us. To

describe any of these would be as superfluous as definitions usually are when given of things with which we are already well acquainted. There are few that have not had opportunities of seeing them, and whose ideas would not anticipate our description. But, though nothing be so easy as to distinguish these in general from each other, yet the largest of the duck-kind approach the goose so nearly, that it may be proper to mark the distinctions.

The marks of the goose are, a bigger body, large wings, a longer neck, a white ring about the rump, a bill thicker at the base, slenderer towards the tip, with shorter legs, placed more forward on the body. They both have a waddling walk; but the duck, from the position of its legs, has it in a greater degree. By these marks, these similar tribes may be known asunder; and though the duck should be found to equal the goose in size, which sometimes happens, yet there are still other sufficient distinctions.

But they all agree in many particulars; and have a nearer affinity to each other than the neighbouring kinds in any other department. Their having been tamed has produced alterations in each, by which they differ as much from the wild ones of their respective kinds as they do among themselves. There is nearly as much difference between the wild and the tame duck, as between some sorts of the duck and the goose; but still, the characteristics of the kind are strongly marked and obvious; and this tribe can never be mistaken.

The bill is the first great obvious distinction of the goose-kind from all of the feathered tribe. In

other birds it is round and wedge-like, or crooked at the end. In all the goose kind it is flat and broad, made for the purposes of skimming ponds and lakes of the mantling weeds that stand on the surface. The bills of other birds are made of an horny substance throughout; these have their inoffensive bills sheathed with a skin which covers them all over. The bill of every other bird seems in some measure formed for piercing or tearing; theirs are only fitted for shoveling up their food, which is chiefly of the vegetable kind.

Though these birds do not reject animal food when offered them, yet they can contentedly subsist upon vegetables, and seldom seek any other. They are easily provided for; wherever there is water, there seems to be plenty. All the other web-footed tribes are continually voracious, continually preying. These lead more harmless lives: the weeds on the surface of the water, or the insects at the bottom, the grass by the bank, or the fruits and corn in cultivated grounds, are sufficient to satisfy their easy appetites: yet these, like every other animal, will not reject flesh, if properly prepared for them; it is sufficient praise to them, that they do not eagerly pursue it.

As their food is chiefly vegetables, so their fecundity is in proportion. We have had frequent opportunities to observe, that all the predatory tribes, whether of birds or quadrupeds, are barren and unfruitful. We have seen the lion with its two cubs; the eagle with the same number; and the penguin with even but one. Nature, that has supplied them with powers of destruction, has denied them fertility. But it is otherwise with these harmless ani-

mals I am describing. They seem formed to fill up the chasms in animated nature, caused by the voraciousness of others. They breed in great abundance, and lead their young to the pool the instant they are excluded.

As their food is simple, so their flesh is nourishing and wholesome. The swan was considered as an high delicacy among the ancients; the goose was abstained from as totally indigestible. Modern manners have inverted tastes; the goose is now become the favourite; and the swan is seldom brought to table, unless for the purposes of ostentation. But at all times the flesh of the duck was in high esteem; the ancients thought even more highly of it than we do. We are contented to eat it as a delicacy; they also considered it as a medicine; and Plutarch assures us, that Cato kept his whole family in health, by feeding them with duck whenever they threatened to be out of order.

These qualities of great fecundity, easy sustenance, and wholesome nourishment, have been found so considerable as to induce man to take these birds from a state of nature, and render them domestic. How long they have been thus dependents upon his pleasures is not known; for, from the earliest accounts, they were considered as familiars about him. The time must have been very remote; for there have been many changes wrought in their colours, their figures, and even their internal parts, by human cultivation. The different kinds of these birds, in a wild state, are simple in their colourings: when one has seen a wild goose or a wild duck, a description of its plumage will, to a feather exactly correspond with that of any other. But in the tame

kinds no two of any species are exactly alike. Different in their size, their colours, and frequently in their general form, they seem the mere creatures of art; and, having been so long dependent upon man for support, they seem to assume forms entirely suited to his pleasures or necessities.

CHAP. X.

Of the Swan, tame and wild.

No bird makes a more indifferent figure upon land, or a more beautiful one in the water, than the Swan. When it ascends from its favourite element, its motions are aukward, and its neck is stretched forward with an air of stupidity; but when it is seen smoothly sailing along the water, commanding a thousand graceful attitudes, moving at pleasure without the smallest effort, when it "proudly rows "its state," as Milton has it, "with arched neck, "between its white wings mantling," there is not a more beautiful figure in all nature. In the exhibition of its form, there are no broken or harsh lines; no constrained or catching motions; but the roundest contours, and the easiest transitions: the eye wanders over every part with insatiable pleasure, and every part takes a new grace with a new motion.

This fine bird has long been rendered domestic; and it is now a doubt whether there be any of the tame kind in a state of nature. The wild swan, though so strongly resembling this in colour and

form, is yet a different bird; for it is very differently formed within. The wild swan is less than the tame by almost a fourth; for as the one weighs twenty pounds, the other only weighs sixteen pounds and three quarters. The colour of the tame swan is all over white; that of the wild bird is, along the back and the tips of the wings, of an ash-colour. But these are slight differences, compared to what are found upon dissection. In the tame swan, the wind-pipe sinks down into the lungs in the ordinary manner; but in the wild, after a strange and wonderful contortion, like what we have seen in the crane, it enters through an hole formed in the breast-bone; and being reflected therein, returns by the same aperture; and being contracted into a narrow compass by a broad and bony cartilage, it is divided into two branches, which, before they enter the lungs, are dilated and as it were swollen out into two cavities.

Such is the extraordinary difference between these two animals, which externally seem to be of one species. Whether it is in the power of long-continued captivity and domestication to produce this strange variety, between birds otherwise the same, I will not take upon me to determine; but certain it is, that our tame swan is no where to be found, at least in Europe, in a state of nature.

As it is not easy to account for this difference of conformation, so it is still more difficult to reconcile the accounts of the antients with the experience of the moderns, concerning the vocal powers of this bird. The tame swan is one of the most silent of all birds; and the wild one has a note extremely loud and disagreeable. It is probable, the convolu-

tions of the wind-pipe may contribute to increase the clangor of it; for such is the harshness of its voice, that the bird from thence has been called the Hooper. In neither is there the smallest degree of melody; nor have they, for above this century, been said to give specimens of the smallest musical abilities: yet, notwithstanding this, it was the general opinion of antiquity, that the swan was a most melodious bird; and that even to its death, its voice went on improving. It would shew no learning to produce what they have said upon the music of the swan: it has already been collected by Aldrovandus; and still more professedly by the Abbè Gedoyn, in the Transactions of the Academy of Belles Lettres. From these accounts it appears that, while Plato, Aristotle, and Diodorus Siculus, believed the vocality of the swan, Pliny and Virgil seem to doubt that received opinion. In this equipoise of authority, Aldrovandus seems to have determined in favour of the Greek philosophers; and the form of the wind-pipe in the wild swan, so much resembling a musical instrument, inclined his belief still more strongly. In aid of this also, came the testimony of Pendasius, who affirmed, that he had often heard swans sweetly singing in the lake of Mantua, as he was rowed up and down in a boat; as also of Olaus Wormius, who professed that many of his friends and scholars had heard them singing. "There was," says he, "in my family, a very honest "young man, John Rostorph, a student in divi-"nity, and a Norwegian by nation. This man "did, upon his credit, and with the interposition "of an oath, solemnly affirm, that once, in the

"territory of Dronten, as he was standing on the
"sea shore, early in the morning, he heard an unu-
"sual and sweet murmur, composed of most plea-
"sant whistlings and sounds; he knew not at first
"whence they came, or how they were made, for
"he saw no man near to produce them; but look-
"ing round about him, and climbing to the top of
"a certain promontory, he there espied an infinite
"number of swans gathered together in a bay, and
"making the most delightful harmony: a sweeter
"in all his life time he had never heard." These were accounts sufficient at least to keep opinion in suspense, though in contradiction to our own experience; but Aldrovandus, to put, as he supposed, the question past all doubt, gives us the testimony of a countryman of our own, from whom he had the relation. This honest man's name was Mr. George Braun, who assured him, that nothing was more common in England, than to hear swans sing; that they were bred in great numbers in the sea, near London; and that every fleet of ships that returned from their voyages from distant countries, were met by swans, that came joyfully out to welcome their return, and salute them with a loud and chearful singing! It was in this manner that Aldrovandus, that great and good man, was frequently imposed upon by the designing and the needy: his unbounded curiosity drew round him people of every kind, and his generosity was as ready to reward falshood as truth.—Poor Aldrovandus! after having spent a vast fortune, for the purposes of enlightening mankind; after having collected more truth and more falshood than any man ever did before him, he little thought of being reduced at last to want

bread, to feel the ingratitude of his country, and to die a beggar in a public hospital!

Thus it appears that our modern authorities, in favour of the singing of swans, are rather suspicious since they are reduced to this Mr. George Braun, and John Rostorph, the native of a country remarkable for ignorance and credulity. It is probable the ancients had some mythological meaning in ascribing melody to the swan; and as for the moderns, they scarcely deserve our regard. The swan, therefore, must be content with that share of fame which it possesses on the score of its beauty; since the melody of its voice, without better testimony, will scarcely be admitted by even the credulous.

This beautiful bird is as delicate in its appetites, as elegant in its form. Its chief food is corn, bread, herbs growing in the water, and roots and seeds, which are found near the margin. It prepares a nest in some retired part of the bank, and chiefly where there is an islet in the stream. This is composed of water plants, long grass and sticks; and the male and female assist in forming it with great assiduity. The swan lays seven or eight eggs, white, much larger than those of a goose, with a hard, and sometimes a tuberous shell. It sits near two months before its young are excluded; which are ash-coloured when they first leave the shell, and for some months after. It is not a little dangerous to approach the old ones, when their little family are feeding round them. Their fears, as well as their pride, seem to take the alarm; and they have sometimes been known to give a blow with their pinion, that has broke a man's leg or arm.

It is not till they are a twelve-month old that the young swans change their colour with their plumage. All the stages of this bird's approach to maturity are slow, and seem to mark its longevity. It is two months hatching; a year in growing to its proper size; and if, according to Pliny's observation, that those animals that are longest in the womb are the longest lived, the swan is the longest in the shell of any bird we know, and is said to be remarkable for its longevity. Some say that it lives three hundred years; and Willughby, who is in general diffident enough, seems to believe the report. A goose, as he justly observes, has been known to live an hundred; and the swan, from its superior size, and from its harder, firmer flesh, may naturally be supposed to live still longer.

Swans were formerly held in such great esteem in England, that, by an act of Edward the Fourth, none except the son of the king, was permitted to keep a swan, unless possessed of five marks a year. By a subsequent act, the punishment for taking their eggs was imprisonment for a year and a day, and a fine at the king's will. At present they are but little valued for the delicacy of their flesh; but many are still preserved for their beauty. We see multitudes on the Thames and Trent; but no where greater numbers than on the salt water inlet of the sea near Abbotsbury, in Dorsetshire *.

* [A species has lately been discovered in New Holland, which at once puts an end to the proverbial point of a black swan. This rare and elegant bird, in its general appearance, bears the most striking resemblance to the tame swan, and has all those gracefully-varying attitudes which so eminently distinguish it from all other inhabitants of the waters: but the plumage is of a full deep

CHAP. XI.

Of the Goose, and its Varieties.

THE Goose, in its domestic state, exhibits a variety of colours. The wild goose always retains the same marks: the whole upper part is ash-coloured; the breast and belly are of a dirty white; the bill is narrow at the base, and at the tip it is black; the legs are of a saffron-colour, and the claws black. These marks are seldom found in the tame; whose bill is entirely red, and whose legs are entirely brown. The wild goose is rather less than the tame; but both invariably retain a white ring round their tail, which shews that they are both descended from the same original.

The wild goose is supposed to breed in the northern parts of Europe; and, in the beginning of winter, to descend into more temperate regions. They are often seen flying at very great heights, in flocks from fifty to an hundred, and seldom resting by day. Their cry is frequently heard when they are at an imperceptible distance above us; and this seems bandied from one to the other, as among hounds in the pursuit. Whether this be the note of mutual encouragement, or the necessary consequence of respiration, is doubtful; but they seldom exert it when they alight in these journies.

black, with a bill of the finest red, and white quilled feathers. The tip of the upper beak is blackish; and there is a yellow spot near it: the legs are black, and the feet somewhat paler.]

Upon their coming to the ground by day, they range themselves in a line, like cranes; and seem rather to have descended for rest, than for other refreshment. When they have sat in this manner for an hour or two, I have heard one of them, with a loud long note, sound a kind of charge, to which the rest punctually attended, and they pursued their journey with renewed alacrity. Their flight is very regularly arranged: they either go in a line a-breast, or in two lines, joining in an angle in the middle. I doubt whether the form of their flight be thus arranged to cut the air with greater ease, as is commonly believed; I am more apt to think it is to present a smaller mark to fowlers from below. A bullet might easily reach them, if huddled together in a flock, and the same discharge might destroy several at once; but, by their manner of flying, no shot from below can affect above one of them; and from the height at which they fly, this is not easy to be hit.

The Barnacle differs in some respects from both these; being less than either, with a black bill, much shorter than either of the preceding. It is scarcely necessary to combat the idle error of this bird's being bred from a shell sticking to ships bottoms; it is well known to be hatched from an egg, in the ordinary manner, and to differ in very few particulars from all the rest of its kind.

The Brent Goose is still less than the former, and not bigger than a Muscovy duck, except that the body is longer. The head, neck, and upper part of the breast, are black; but about the middle of the neck, on each side, are two small

spots or lines of white, which together appear like a ring.

These, and many other varieties, are found in this kind; which agree in one common character of feeding upon vegetables, and being remarkable for their fecundity. Of these, however, the tame goose is the most fruitful. Having less to fear from its enemies, leading a securer and a more plentiful life, its prolific powers increase in proportion to its ease; and though the wild goose seldom lays above eight eggs, the tame goose is often seen to lay above twenty. The female hatches her eggs with great assiduity; while the gander visits her twice or thrice a day, and sometimes drives her off to take her place, where he sits with great state and composure.

But beyond that of all animals is his pride when the young are excluded: he seems then to consider himself as a champion not only obliged to defend his young, but also to keep off the suspicion of danger; he pursues dogs and men that never attempt to molest him; and, though the most harmless thing alive, is then the most petulant and provoking. When, in this manner, he has pursued the calf or the mastiff, to whose contempt alone he is indebted for safety, he returns to his female and her brood in triumph, clapping his wings, screaming, and shewing all the marks of conscious superiority. It is probable, however, these arts succeed in raising his importance among the tribe where they are displayed; and it is probable there is not a more respectable animal on earth to a goose than a gander!

A young goose is generally reckoned very good

eating; yet the feathers of this bird still farther increase its value. I feel my obligations to this animal every word I write; for, however deficient a man's head may be, his pen is nimble enough upon every occasion: it is happy indeed for us, that it requires no great effort to put it in motion. But the feathers of this bird are still as valuable in another capacity, as they make the softest and the warmest beds to sleep on.

Of goose-feathers most of our beds in Europe are composed; in the countries bordering on the Levant, and in all Asia, the use of them is utterly unknown. They there use mattrasses, stuffed with wool, or camel's hair, or cotton; and the warmth of their climate may perhaps make them dispense with cushions of a softer kind. But how it happens that the ancients had not the use of feather-beds, is to me surprising: Pliny tells us, indeed, that they made bolsters of feathers to lay their heads on; and this serves as a proof that they turned feathers to no other uses.

As feathers are a very valuable commodity, great numbers of geese are kept tame in the fens in Lincolnshire, which are plucked once or twice a year. These make a considerable article of commerce. The feathers of Somersetshire are most in esteem; those of Ireland are reckoned the worst. Hudson's Bay also furnishes very fine feathers, supposed to be of the goose kind. The down of the swan is brought from Dantzic. The same place also sends us great quantities of the feathers of the cock and hen; but Greenland, Iceland, and Norway, furnish the best feathers of all: and in this number we may reckon the Eider down, of which we shall take notice in

its place. The best method of curing feathers, is to lay them in a room in an open exposure to the sun; and, when dried, to put them into bags, and beat them well with poles to get the dust off. But, after all, nothing will prevent, for a time, the heavy smell which arises from the putrefaction of the oil contained in every feather; no exposure will draw this off, how long soever it be continued; they must be lain upon, which is the only remedy: and, for this reason, old feathers are much more valuable than new.

CHAP. XII.

Of the Duck, and its Varieties.

THE Tame Duck is the most easily reared of all our domestic animals. The very instincts of the young ones direct them to their favourite element; and though they are conducted by a hen, yet they despise the admonitions of their leader.

This serves as an incontestible proof that all birds have their manners rather from nature than education. A falcon pursues the partridge, not because it is taught by the old one, but because its appetites make their importunate call for animal food; the cuckoo follows a very different trade from that which its nurse endeavoured to teach it; and, if we may credit Pliny, in time destroys its instructor: animals of the duck kind also follow their appetites, not their tutor, and come to all their various per-

fections without any guide. All the arts possessed by man, are the result of accumulated experience; all the arts of inferior animals are self-taught, and scarce one acquired by imitation.

It is usual with the good women to lay duck-eggs under a hen, because she hatches them better than the original parent would have done. The duck seems to be an heedless, inattentive mother; she frequently leaves her eggs till they spoil, and even seems to forget that she is entrusted with the charge: she is equally regardless of them when excluded; she leads them to the pond, and thinks she has sufficiently provided for her offspring when she has shewn them the water. Whatever advantages may be procured by coming near the house, or attending in the yard, she declines them all; and often lets the vermin, who haunt the waters, destroy them, rather than bring them to take shelter nearer home. The hen is a nurse of a very opposite character; she broods with the utmost assiduity, and generally brings forth a young one from every egg committed to her charge; she does not lead her younglings to the water indeed, but she watchfully guards them when there by standing at the brink. Should the rat, or the weazle, attempt to seize them, the hen can give them protection; she leads them to the house when tired with paddling, and rears up the supposititious brood, without ever suspecting that they belong to another.

The wild duck differs, in many respects, from the tame; and in them there is still greater variety than among the domestic kinds. Of the tame duck there are not less than ten different sorts; and of the wild, Brisson reckons above twenty. The most

obvious distinction between wild and tame ducks is in the colour of their feet; those of the tame duck being black; those of the wild duck yellow. The difference between wild ducks among each other, arises as well from their size as the nature of the place they feed in. Sea-ducks, which feed in the salt-water, and dive much, have a broad bill, bending upwards, a large hind toe, and a long blunt tail. Pond-ducks, which feed in plashes, have a straight and narrow bill, a small hind toe, and a sharp-pointed train. The former are called, by our decoy-men, foreign ducks; the latter are supposed to be natives of England. It would be tedious to enter into the minute varieties of such a number of birds; all agreeing in the same general figure, the same habits and mode of living, and differing in little more than their size, and the colours of their plumage. In this tribe, we may rank, as natives of our own European dominions, the Eider Duck, which is double the size of a common duck, with a black bill; the Velvet Duck, not so large, and with a yellow bill; the Scoter, with a knob at the base of a yellow bill; the Tufted Duck, adorned with a thick crest; the Scaup Duck, less than the common duck, with the bill of a greyish blue colour; the Golden Eye, with a large white spot at the corners of the mouth, resembling an eye; the Sheldrake, with the bill of a bright red, and swelling into a knob; the Mallard, which is the stock from whence our tame breed has probably been produced; the Pintail, with the two middle feathers of the tail three inches longer than the rest; the Pochard, with the head and neck of a bright bay; the Widgeon, with a lead-coloured

bill, and the plumage of the back marked with narrow black and white undulated lines, but best known by its whistling sound: lastly, the Teal, which is the smallest of this kind, with the bill black, the head and upper part of the neck of a bright bay. These are the most common birds of the duck kind among ourselves; but who can describe the amazing variety of this tribe, if he extends his view to the different quarters of the world? The most noted of the foreign tribe are, the Muscovy Duck, or, more properly speaking, the Musk Duck, so called from a supposed musky smell, with naked skin round the eyes, and which is a native of Africa. The Brasilian Duck, that is of the size of a goose, all over black, except the tips of the wings. The American Wood Duck, with a variety of beautiful colours, and a plume of feathers that falls from the back of the head like a friar's cowl. These, and twenty others, might be added, were increasing the number of names the way to enlarge the sphere of our comprehension.

All these live in the manner of our domestic ducks, keeping together in flocks in the winter, and flying in pairs in summer, bringing up their young by the water-side, and leading them to their food as soon as out of the shell. Their nests are usually built among heath or rushes, not far from the water, and they lay twelve, fourteen or more eggs before they sit: yet this is not always their method; the dangers they continually encounter from their ground situation, sometimes obliges them to change their manner of building; and their aukward nests, are often seen exalted on the tops of trees. This must be a very great labour to per-

form, as the duck's bill is but ill-formed for building a nest, and giving the materials of which it is composed a sufficient stability to stand the weather. The nest, whether high or low, is generally composed of singular materials. The longest grass, mixed with heath, and lined within with the bird's own feathers, usually go to the composition: however, in proportion as the climate is colder, the nest is more artificially made, and more warmly lined. In the Arctic regions, nothing can exceed the great care all of this kind take to protect their eggs from the intenseness of the weather. While the gull and the penguin kind seem to disregard the severest cold, the duck, in those regions, forms itself a hole to lay in, shelters the approach, lines it with a layer of long grass and clay, within that another of moss, and lastly, a warm coat of feathers or down. The eider duck is particularly remarkable for the warmth of its nest. This bird, which, as was said, is above twice as large as the common duck, and resides in the colder climates, lays from six to eight eggs, making her nest among the rocks, or the plants along the sea-shore. The external materials of the nest are such as are in common with the rest of the kind; but the inside lining, on which the eggs are immediately deposited, is at once the softest, warmest, and the lightest substance with which we are acquainted. This is no other than the inside down which covers the breast of the bird in the breeding-season. This the female plucks off with her bill, and furnishes the inside of her nest with a tapestry more valuable than the most skilful artists can produce. The natives watch the place where she begins to build, and suffering

her to lay, take away both the eggs and the nest. The duck, however, not discouraged by the first disappointment, builds and lays in the same place a second time; and this they in the same manner take away: the third time she builds, but the drake must supply the down from his breast to line the nest with: and, if this be robbed, they both forsake the place, and breed there no more. This down the natives take care to separate from the dirt and moss with which it is mixed; and, though no people stand in more need of a warm covering than themselves, yet their necessities compel them to sell it to the more indolent and luxurious inhabitants of the south, for brandy and tobacco.

As they possess the faculties of flying and swimming, so they are in general birds of passage, and it is most probable perform their journies across the ocean as well on the water as in the air. Those that migrate to this country, on the approach of winter, are seldom found so well tasted or so fat as the fowls that continue with us the year round: their flesh is often lean, and still oftener fishy; which flavour it has probably contracted in the journey, as their food in the lakes of Lapland, from whence they descend, is generally of the insect kind.

As soon as they arrive among us, they are generally seen flying in flocks to make a survey of those lakes where they intend to take up their residence for the winter. In the choice of these they have two objects in view; to be near their food, and yet remote from interruption. Their chief aim is to chuse some lake in the neighbourhood of a marsh, where there is at the same time a cover of woods, and where insects are found in greatest abundance.

Lakes, therefore, with a marsh on one side, and a wood on the other, are seldom without vast quantities of wild-fowl; and where a couple are seen at any time, that is a sufficient inducement to bring hundreds of others. The ducks flying in the air are often lured down from their heights by the loud voice of the mallard from below. Nature seems to have furnished this bird with very particular faculties for calling. The wind-pipe, where it begins to enter the lungs, opens into a kind of bony cavity, where the sound is reflected, as in a musical instrument, and is heard a great way off. To this call all the stragglers resort; and in a week or a fortnight's time, a lake that before was quite naked is black with water-fowl, that have left their Lapland retreats, to keep company with our ducks, who never stirred from home.

They generally chuse that part of the lake where they are inaccessible to the approach of the fowler, in which they all appear huddled together, extremely busy and very loud. What it is can employ them all the day is not easy to guess. There is no food for them at the place where they sit and cabal thus, as they chuse the middle of the lake; and as for courtship, the season for that is not yet come; so that it is wonderful what can so busily keep them occupied. Not one of them seems a moment at rest. Now pursuing one another, now screaming, then all up at once, then down again; the whole seems one strange scene of bustle with nothing to do.

They frequently go off in a more private manner by night to feed in the adjacent meadows and ditches, which they dare not venture to approach

by day. In these nocturnal adventures they are often taken; for, though a timorous bird, yet they are easily deceived, and every spring seems to succeed in taking them. But the greatest quantities are taken in decoys; which, though well known near London, are yet untried in the remoter parts of the country. The manner of making and managing a decoy is as follows.

A place is to be chosen for this purpose far remote from the common highway, and all noise of people. A decoy is best where there is a large pond surrounded by a wood, and beyond that a marshy and uncultivated country. When the place is chosen, the pool, if possible, is to be planted round with willows, unless a wood answers the purpose of shading it on every side. On the south and north side of this pool are two, three, or four ditches or channels, made broad towards the pool, and growing narrower till they end in a point. These channels are to be covered over with nets, supported by hooped sticks bending from one side to the other; so that they form a vault or arch, growing narrower and narrower to the point, where it is terminated by a tunnel-net, like that in which fish are caught in weirs. Along the banks of these channels so netted over, which are called pipes, many hedges are made of reeds slanting to the edge of the channel, the acute angles to the side next the pool. The whole apparatus also is to be hidden from the pool by a hedge of reeds along the margin, behind which the fowler manages his operations. The place being fitted in this manner, the fowler is to provide himself with a number of wild ducks made tame, which are called decoys.

These are always to be fed at the mouth or entrance of the pipe, and to be accustomed to come at a whistle.

As soon as the evening is set in, *the decoy rises*, as they term it, and the wild-fowl feed during the night. If the evening be still, the noise of their wings, during their flight, is heard at a very great distance, and produces no unpleasing sensation. The fowler, when he finds a fit opportunity, and sees his decoy covered with fowl, walks about the pool, and observes into what pipe the birds gathered in the pool may be enticed or driven. Then casting hemp-seed, or some such seed as will float on the surface of the water, at the entrance and up along the pipe, he whistles to his decoy-ducks, who instantly obey the summons, and come to the entrance of the pipe, in hopes of being fed as usual. Thither also they are followed by a whole flock of wild ones, who little suspect the danger preparing against them. Their sense of smelling however is very exquisite; and they would soon discover their enemy, but that the fowler always keeps a piece of turf burning at his nose, against which he breathes; and this prevents the effluvia of his person from reaching their exquisite senses. The wild-ducks, therefore, pursuing the decoy ducks, are led into the broad mouth of the channel or pipe, nor have the least suspicion of the man, who keeps hidden behind one of the hedges. When they have got up the pipe, however, finding it grow more and more narrow, they begin to suspect danger, and would return back; but they are now prevented by the man, who shews himself at the broad end below. Thither, therefore, they dare not return; and rise

they may not, as they are kept by the net above from ascending. The only way left them, therefore, is the narrow-funnelled net at the bottom; into this they fly, and there they are taken.

It often happens, however, that the wild-fowl are in such a state of sleepiness or dozing, that they will not follow the decoy-ducks. Use is then generally made of a dog, who is taught his lesson. He passes backward and forward between the reed-hedges, in which there are little holes, both for the decoy-man to see, and for the little dog to pass through. This attracts the eye of the wild-fowl; who, prompted by curiosity, advance towards this little animal, while he all the time keeps playing among the reeds, nearer and nearer the funnel, till they follow him too far to recede. Sometimes the dog will not attract their attention till a red handkerchief, or something very singular, be put about him. The decoy-ducks never enter the funnel-net with the rest, being taught to dive under water as soon as the rest are driven in.

The general season for catching fowl in decoys is from the latter end of October till February. The taking them earlier is prohibited by an act of George the Second, which imposes a penalty of five shillings for every bird destroyed at any other season.

The Lincolnshire decoys are commonly let at a certain annual rent, from five pounds to twenty pounds a year; and some even amount to thirty. These principally contribute to supply the markets of London with wild-fowl. The number of ducks, wigeon, and teal, that are sent thither is amazing. Above thirty thousand have been sent up in one

season from ten decoys in the neighbourhood of Wainfleet. This quantity makes them so cheap on the spot, that it is asserted, that several decoy-men would be glad to contract for years to deliver their ducks at the next town for ten-pence the couple.

To this manner of taking wild-fowl in England, I will subjoin another still more extraordinary, frequently practised in China. Whenever the fowler sees a number of ducks settled in any particular plash of water, he sends off two or three gourds to float among them. These gourds resemble our pompions; but, being made hollow, they swim on the surface of the water; and on one pool there may sometimes be seen twenty or thirty of these gourds floating together. The fowl at first are a little shy of coming near them; but by degrees they come nearer; and as all birds at last grow familiar with a scare-crow, the ducks gather about these, and amuse themselves by whetting their bills against them. When the birds are as familiar with the gourds as the fowler could wish, he then prepares to deceive them in good earnest. He hollows out one of these gourds large enough to put his head in; and, making holes to breathe and see through, he claps it on his head. Thus accoutred, he wades slowly into the water, keeping his body under, and nothing but his head in the gourd above the surface; and in that manner moves imperceptibly towards the fowls, who suspect no danger. At last, however, he fairly gets in among them; while they, having been long used to see gourds, take not the least fright while the enemy is in the very midst of them; and an insidious enemy he is; for ever as he approaches a fowl, he seizes it by the

legs, and draws it in a jerk under water. There he fastens it under his girdle, and goes to the next, till he has thus loaded himself with as many as he can carry away. When he has got his quantity, without ever attempting to disturb the rest of the fowls on the pool, he slowly moves off again; and in this manner pays the flock three or four visits in a day. Of all the various artifices for catching fowl, this seems likely to be attended with the greatest success, as it is the most practised in China.

[The Eider duck is about twice as large as the common duck, and is principally found in the western islands of Scotland, and on the coasts of Norway, Iceland, and Greenland. Its bill is black, and its plumage is a varied mixture of black and white; the female however is of a reddish brown colour, marked with black and dusky streaks. They generally build on small islands, not far from the shore, and the male continues on the watch near the shore while the female is sitting; but he leaves them when the brood is hatched. As soon as they are able to creep from the shell, the mother entices them to the water side, and taking them on her back, she swims a short distance with them; when she has got them a little way from the land, she dives suddenly, leaving them floating on the surface of the water to shift for themselves. After this they are seldom found on land.

But that which renders this bird so highly valued, is the celebrated Eider down used for the beds and couches of the luxurious and the effeminate. This is plucked from the breast by the birds, in order to line their nests; and during the time that the female

is sitting, those who are concerned in the traffick, remove her and take away the down and superfluous eggs, and then carefully replace her. This is done several times, and the down is again produced by the birds, and she begins to lay afresh: and when the young ones leave the nest, it is completely plundered. One female will give about half a pound of down, which when properly cleaned, is reduced to one half of that quantity.]

CHAP. XIII.

Of the King-Fisher.

I WILL conclude this History of Birds with one that seems to unite in itself somewhat of every class preceding. It seems at once possessed of appetites for prey like the rapacious kinds, with an attachment to water like the birds of that element. It exhibits in its form the beautiful plumage of the peacock, the shadings of the humming-bird, the bill of the crane, and the short legs of the swallow. The bird I mean is the King-Fisher, of which many extraordinary falsehoods have been propagated; and yet of which many extraordinary things remain to be said that are actually true.

The king-fisher is not much larger than a swallow; its shape is clumsy; the legs disproportionably small, and the bill disproportionably long; it is two inches from the base to the tip; the upper chap black, and the lower yellow; but the colours of this bird atone for its inelegant form; the crown of

the head, and the coverts of the wings, are of a deep blackish green, spotted with bright azure; the back and tail are of the most resplendent azure; the whole under-side of the body is orange-coloured; a broad mark of the same passes from the bill beyond the eyes; beyond that is a large white spot: the tail is short, and consists of twelve feathers of a rich deep blue; the feet are of a reddish yellow, and the three joints of the outmost toe adhere to the middle toe, while the inner toe adheres only by one.

From the diminutive size, the slender short legs, and the beautiful colours of this bird, no person would be led to suppose it one of the most rapacious little animals that skims the deep. Yet it is for ever on the wing, and feeds on fish, which it takes in surprising quantities, when we consider its size and figure. It chiefly frequents the banks of rivers, and takes its prey after the manner of the osprey, balancing itself at a certain distance above the water for a considerable space, then darting into the deep, and seizing the fish with inevitable certainty. While it remains suspended in the air, in a bright day, the plumage exhibits a beautiful variety of the most dazzling and brilliant colours. It might have been this extraordinary beauty that has given rise to fable; for wherever there is any thing uncommon, fancy is always willing to encrease the wonder*.

* [Mr. Montague, who paid much attention to the manners of this bird, says that they never suspend themselves on the wing, and dart on their prey like the osprey; but that they sit patiently on a bough over the water, and when a small fish comes near the

Of this bird it has been said that she built her nest on the water, and thus in a few days hatched and produced her young. But, to be uninterrupted in this task, she was said to be possessed of a charm to allay the fury of the waves; and during this period the mariner might sail with the greatest security. The ancient poets are full of these fables; their historians are not exempt from them. Cicero has written a long poem in praise of the halcyon, of which there remains but two lines. Even the emperor Gordian has written a poem on this subject, of which we have nothing remaining. These fables have been adopted each by one of the earliest fathers of the church. "Behold," says St. Ambrose, "the little bird, which in the midst of the "winter lays her eggs on the sand by the shore. "From that moment the winds are hushed; the "sea becomes smooth; and the calm continues "for fourteen days. This is the time she requires; "seven days to hatch, and seven days to foster her "young. Their Creator has taught these little "animals to make their nest in the midst of the "most stormy season, only to manifest his kindness "by granting them a lasting calm. The seamen "are not ignorant of this blessing; they call this "interval of fair weather their *halcyon days*; and "they are particularly careful to seize the opportu-"nity, as then they need fear no interruption." This, and an hundred other instances might be

surface, they dart on it and seize it with their bill. He never could observe the old birds with any thing in their bills, when they went in to feed their young, from which he concludes that they eject it from their stomachs for this purpose].

given of the credulity of mankind with respect to this bird; they entered into speculations concerning the manner of her calming the deep, the formation of her nest, and her peculiar sagacity; at present we do not speculate, because we know, with respect to our king-fisher, that most of the facts are false. It may be alledged, indeed, with some shew of reason, that the halcyon of the ancients was a different bird from our king-fisher; it may be urged, that many birds, especially on the Indian ocean, build a floating nest upon the sea; but still the history of the ancient halcyon is clogged with endless fable; and it is but an indifferent method to vindicate falshood by shewing that a part of the story is true.

The king-fisher with which we are acquainted at present, has none of those powers of allaying the storm, or building upon the waves; it is contented to make its nest on the banks of rivers, in such situations as not to be affected by the rising of the stream. When it has found a place for its purpose, it hollows out with its bill a hole about a yard deep; or if it finds the deserted hole of a rat, or one caused by the root of a tree decaying, it takes quiet possession. This hole it enlarges at the bottom to a good size; and, lining it with the down of the willow, lays its eggs there without any further preparation.

Its nest, or rather hole, is very different from that described by the ancients, by whom it is said to be made in the shape of a long-necked gourd of the bones of the sea-needle. The bones, indeed, are found there in great quantities, as well as the scales of fishes; but these are the remains of the

bird's food, and by no means brought there for the purposes of warmth or convenience. The king-fisher, as Bellonius says, feeds upon fish, but is incapable of digesting the bones and scales, which he throws up again, as eagles and owls are seen to do a part of their prey. These fill the bird's nest of course; and, although they seem as if designedly placed there, are only a kind of nuisance.

In these holes, which, from the remains of fish brought there, are very fœtid, the king-fisher is often found with from five eggs to nine. There the female continues to hatch even though disturbed; and though the nest be robbed, she will again return and lay there. "I have had one of those "females brought me," says Reaumur, "which "was taken from her nest about three leagues from "my house. After admiring the beauty of her "colours, I let her fly again, when the fond crea-"ture was instantly seen to return back to the nest "where she had just before been made a captive. "There joining the male, she again began to lay, "though it was for the third time, and though the "season was very far advanced. At each time she "had seven eggs. The older the nest is, the greater "quantity of fish-bones and scales does it contain: "these are disposed without any order; and some-"times take up a good deal of room."

The female begins to lay early in the season; and excludes her first brood about the beginning of April. The male, whose fidelity exceeds even that of the turtle, brings her large provisions of fish while she is thus employed; and she, contrary to most other birds, is found plump and fat at that season. The male, that used to twitter before this,

now enters the nest as quietly and as privately as possible. The young ones are hatched at the expiration of twenty days; but are seen to differ as well in their size as in their beauty.

As the ancients have had their fables concerning this bird, so have the modern vulgar. It is an opinion generally received among them that the flesh of the king-fisher will not corrupt, and that it will even banish all vermin. This has no better foundation than that which is said of its always pointing, when hung up dead, with its breast to the north. The only truth which can be affirmed of this bird when killed is, that its flesh is utterly unfit to be eaten; while its beautiful plumage preserves its lustre longer than that of any other bird we know.

Having thus given a short history of birds, I own I cannot take leave of this most beautiful part of the creation without reluctance. These splendid inhabitants of air possess all those qualities that can sooth the heart and cheer the fancy. The brightest colours, the roundest forms, the most active manners, and the sweetest music. In sending the imagination in pursuit of these, in following them to the chirping grove, the screaming precipice, or the glassy deep, the mind naturally lost the sense of its own situation, and, attentive to their little sports, almost forgot the TASK of describing them. Innocently to amuse the imagination in this dream of life is wisdom; and nothing is useless that, by furnishing mental employment, keeps us for a while in oblivion of those stronger appetites that lead to evil. But every rank and state of mankind may find something to imitate in those delightful

songsters, and we may not only employ the time, but mend our lives by the contemplation. From their courage in defence of their young, and their assiduity in incubation, the coward may learn to be brave, and the rash to be patient. The inviolable attachment of some to their companions may give lessons of fidelity; and the connubial tenderness of others, be a monitor to the incontinent. Even those that are tyrants by nature never spread capricious destruction; and, unlike man, never inflict a pain but when urged by necessity.

END OF THE FOURTH VOLUME.

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